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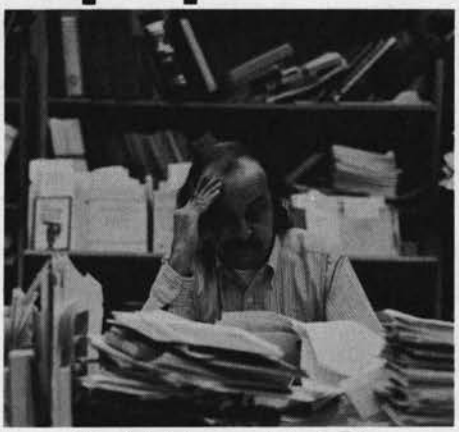

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Manuscripts of articles and copies of books submitted for review should be addressed to Richard M. Dougherty, editor, **College & Research Libraries,** University Librarian, University of California, Berkeley, California 94720. All articles submitted must be accompanied by an abstract of from 75 to 100 words in length. Material for the News issues should be sent to Allan J. Dyson, Moffitt Undergraduate Library, University of California, Berkeley, California 94720.

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At the Brink of Federation

The dues structure proposed by Copes and endorsed by Council at Midwinter represents the first step toward a federated American Library Association. The dues structure provides for a basic personal membership of $35 plus the option of joining divisions at a cost of $15 for each division selected. The new dues schedule should produce several short-range impacts. Many librarians who are not now members of ALA should be willing to join or rejoin the association. The $15 division charge will discourage some members from participating in divisional activities. It could also signal the end of one or more ALA divisional journals. *CRL* and the *CRL News* will be placed in a precarious financial position. The division could no longer offer its two publications to nonmembers at the current rate of $15 without reducing the incentive for belonging to ACRL itself. An increase in the journal subscription will produce a further reduction in nonmember subscription income. Also, if divisional membership declines initially, which is not an unreasonable assumption, the burden on ACRL's budget to support its publications will increase. It is estimated that approximately $25,000–$30,000 from membership dues will be needed to finance the journals assuming that the expenditures remain at approximately the same level. If the ACRL personal membership were to decline to the 8,000 level, the total revenue available to division activities, once publication costs are subtracted, would amount to $70,000. Obviously ACRL cannot hope to develop vigorous programs of activities at this budgetary level. The solution to the problem is more members.

Academic librarians have grumbled over the current status of ACRL within ALA for many years. It has always been my conviction that it would be a mistake if ACRL completely severed its relations with ALA. Today professional librarians must speak out on national issues such as legislation, intellectual freedom, and international librarianship as one voice. A series of fragmented, independent librarians, such as those in academia, law, music, school, and public groups, will not be able to generate clout at the national level.

The immediate challenge to ACRL is to develop program activities which can be offered to academic librarians at the regional and the state levels. ACRL must become more active at state and regional meetings. ACRL must also promote a vigorous campaign to recruit new members. The recent success of the AASL should serve as an incentive to ACRL and other divisions.

The proposed dues structure represents both risks and benefits. To succeed, ALA must increase its membership, but the proposal offers some of the operational flexibility that many of us have desired. As a personal member of ACRL, I recommend a yes vote on the dues proposal.

RICHARD M. DOUGHERTY

CALVIN J. BOYER

State-Wide Contracts for Library Materials: An Analysis of the Attendant Dysfunctional Consequences

Traditional state-wide contracts for library materials awarded by the state to various vendors in behalf of state-supported college and university libraries regularly incur dysfunctional consequences that far outstrip their intended benefits. More than negating the proposed value of such contracts, these undesirable consequences result in excessive expenditure of library staff time that greatly exceeds projected savings predicated upon discounts to be gained through traditional procedures.

STATE-WIDE CONTRACTS FOR LIBRARY READING MATERIALS are perennially a topic of interest in the quest for greater economy in state-supported academic library acquisition programs. The impetus for considering such contracts has come both from within and without libraries.[1] However, there is a dearth of literature on the topic for librarians, purchasing agents, and other interested individuals who wish to peruse arguments for and against such provisions. Though side-wide contracts often have sparked controversy and have prompted recent investigations in several states, little information has reached the open literature.[2]

This article summarizes the principal conclusions drawn from an appraisal of the appropriateness of state-wide contracts for academic libraries. To provide a broadly-based review, representatives of the three aforementioned primary interest groups—the state, the library, and the supplier of library materials—were contacted to secure facts and opinions.

Directors of forty-five state purchasing agencies were contacted by letter to determine if their respective states required state-supported libraries to purchase library materials from a vendor holding a state-wide contract, what characteristics (if any) of library materials as a commodity set them apart from other commodities for which the state negotiated state-wide contracts, and what undesirable consequences (if any) did such contracts force upon libraries and the state.

Library directors or technical service directors of fifty state-supported college and university libraries were also contacted by letter. The sample was purposefully structured to provide a wide array of libraries (size of budget, age of library, parent institution, etc.) including both libraries which operate under state-wide contracts and those free to negotiate their own contracts. The inquiry sought to identify the two pri-

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mary dysfunctional consequences of such contracts as viewed by each individual respondent.

Executive officers of ten library wholesalers were queried to determine similar data and to ascertain whether the wholesaler would welcome an extension in the number of states awarding statewide contracts. In each of the three categories telephone conversations were used to supplement or clarify issues raised.

The resulting mosaic of information represents insights offered by state purchasing agents, administrative representatives of major library wholesalers, and librarians employed in libraries, some of which were covered and some not, by such contracts.

State-wide contracts for various commodities have traditionally been advocated as a means of control and/or economy. Historically, the role of the state in controlling purchasing activities of subordinate units (divisional, departmental, or institutional) was created to comply with purchasing statutes enacted by state legislatures.

Through combinations of various circumstances, original intent, experience, etc., all states have added provisions to modify certain traditional centralized purchasing procedures which were deemed detrimental to the best interest of the state. One of the most common modifications of centralized procedures is the delegation of authority over control of purchasing procedures to the unit directly involved. Another modification is the exemption of a commodity from existing controls. Presently library materials for academic libraries are one of the most widely exempted commodities from such state-wide controls.[3]

Apart from economic considerations, benefits derived by the state through use of contracts as a means of control are difficult, if not impossible, to assess. Information supplied by purchasing agents, librarians, and wholesalers of library materials fails to substantiate the contention of contract advocates who claim that the state is better served by direct control (typified by state-wide contracts), than it would be if such control were vested in individual institutions.

In contrast, use of such contracts as a means of economy are not so difficult to assess. Unmistakable evidence demonstrates that state-wide contracts are a *disservice* to the principal parties involved—the state, the library, and the vendor. Frank Rogers, director of the library at Portland State University, Oregon, firmly denounces the theory underlying the contract system:

> It is presumably intended to provide open competition for the privilege of supplying library materials for a stated period of time at the lowest possible cost. But its effect is to prevent the librarian, for that period of time, from competing for the best bargains of a combination of price and service.[4]

Moreover, fact and opinion together indicate that in the *best* of circumstances such contracts have returned negligible savings; in less favorable circumstances, compliance with contract provisions has caused both libraries and the state to expend unnecessary sums (time and money) greater than those ever likely to be recovered by utilization of such contracts. Typically, libraries bound by such contracts are forced to spend precious staff time and portions of limited budgets when faced with a change of contractors and/or inadequate service from the vendor. In recent instances, further hardships have been noted when a contractor failed to execute a contract by withdrawing midway through the contract period.

Advocates of contracts as a means of economy emphasize discounts gained through competitive bidding. Yet discounts are at best only a partial indication of the economic success or failure of a contract. A wholly superior way to

measure economy achieved through contracts is to consider actual total expenditure (time and money) determined from cost of each piece acquired, including necessary expenditures to acquire materials which the contract vendor could not, or would not, supply. Henry Knouft, director of purchases, State of Kansas, reported that experience with competitive bidding led to Kansas' adoption of its present policy of institutional autonomy:

> The realization that any saving achieved through competitive bidding was quickly overcome by slow, incomplete deliveries, build-up of backordered items, and uncertain availability of items resulted in our present policy (institutional autonomy).[5]

A hypothetical example plus sound thoughts by authorities in the business will clarify important issues quickly and simply. Vendors A and B bid discounts of 30 percent and 35 percent respectively.

> Knowledgeable bookmen (librarians and book sellers alike) will recognize that there can be two legitimate approaches to the service of library acquisitions. On the one hand, a company can go for discount, supplying what it stocks, or what it can secure easily, with a highly rated discount. Indeed, this approach has validity in many library purchasing situations (most of which are foreign to academic library programs, i.e., such an approach is more suited to meeting the needs of school and public libraries). It is necessary, however, in this context to limit service to those several hundred publishers who discount very favorably to the book trade, and, more importantly, who publish frequently. The business ideal here is to turn over many, many individual titles to many libraries, thus capitalizing on mass production.
>
> The other approach allows a company to capitalize on the value of dealing with nearly all publishers, regardless of discount or frequency of publication. This approach emphasizes the uniqueness of the research library's needs, that is, the ordering of virtually unique (to itself) books that will fit its specific informational needs. The book dealer here releases library technical processing staff from time-consuming task of verifying many separate entries, and the need to proliferate hundreds, perhaps thousands, of separate orders to individual publishers. This service from a dealer may be translated into smaller discounts, but it implies that individual items will be obtained, regardless of difficulty in securing (the items).[6]

On the basis of discounts offered, Vendor B appears to be the preferred vendor. In actual practice, however, Vendor B returns twice as many unfulfilled requests for materials as does Vendor A, indicating that he cannot supply such materials. (It is commonly acknowledged that no vendor is prepared to provide *all* materials.) When a systematic assessment of economy provided by Vendors A and B is completed, Vendor A becomes the preferred vendor. As one astute observer (Daniel Melcher in *Melcher on Acquisition*) suggests: "Discounts offered should never be interpreted to apply to all the materials you want; rather, the interpretation should include only those materials which you want which the vendor can and will supply."[7] M. A. Kinley, chief, Purchasing and Supply Division, State of Hawaii also cautions: ". . . some dealers tend to supply only what is convenient and profitable to them in spite of contract intent, and it is extremely difficult to prove that the supplier deliberately failed to perform."[8]

In some cases, the high discount dealer blatantly refuses to handle certain types of materials needful to college and university libraries. Many purchases of academic libraries consist of materials published by associations and nonprofit organizations. These materials carry no discount to dealer or library,

can be ordered directly from the source, but entail tremendous paper work in handling individual small orders and payments. A good dealer, though of necessity offering a low discount schedule, will obtain a large proportion of these nonprofit materials for a library, thereby saving the library considerable time and trouble, whereas the high discount dealer makes no pretense of handling these types of materials—he simply refuses outright.[9]

Too often, due to difficulty of measuring levels of service, undue emphasis is placed upon discounts. Nevertheless, in spite of this continued emphasis upon discount in many quarters, some library agencies have negotiated contracts on an entirely different basis. One alternative is the master contract. As defined in *Publishers' Weekly:*

> . . . the master contract defines a new way of paying book jobbers. Instead of trying to set up a complicated series of discounts from list price depending upon whether a book is a trade book, a textbook, a foreign-published book or a book from an academic press, this contract states that the buyer shall pay the vendor's cost for the book, plus a flat fee which is designed to pay for *jobber's services* and give him a reasonable profit.[10] (emphasis added)

The most cogent argument of contract advocates for economic justification of such contracts appears to be partially, if not wholly, unsubstantiated if one carefully examines the variables involved by the vendor in determining discounts offered. Those who contend that better discounts are secured by emphasizing the collective purchasing power of libraries of state-supported academic institutions erroneously emphasize the importance of the amount involved in the contract as a primary variable.

Robert Jones, vice-president, Josten's has successfully summarized the dilemma of jobbers:

> A combine of libraries ordering one each of 20,000 titles per year to be shipped and billed to ten locations is no more valuable an account, in terms of profit to the jobber, than a single library ordering one each of 2,000 titles per year. The only savings accrual to the jobber which can reasonably be expected to be passed on to the library occurs when a central agency combines orders for the same title from various branches and then orders in quantities for shipment to one location and pays promptly.
>
> For all colleges in one state to bind together for the purpose of awarding all their book business to one jobber without combining their orders or having shipments and billings made to one place is simply a display of clout. Although there is no saving to the jobber, he will undoubtedly offer a larger discount on a statewide contract out of fear of losing some customers and/or a competitor getting them.
>
> That may sound insane, but unfortunately it is true, as witness the demise of a number of jobbers, paradoxically, during a period of unprecedented growth in the library field. McClurg's is gone. Campbell and Hall is in semi-receivership. Bro-Dart lost money in 1971 and made a tiny profit in 1972. H. R. Huntting Company is just not doing well, Xerox is getting out of the business, and about a half dozen other smaller jobbers have just gone out of business.[11]

What is misleading to many observers is that the contract amount is not a principal variable—rather, it is a secondary one! The uniqueness of the book and other library materials as commodities and the purchasing patterns of academic libraries largely relegate the dollar volume of the contract to a place of secondary importance. Primary variables used by wholesalers of library materials to determine discount rates are:

1. The mix of orders for stock vs. nonstock items.
2. The average price of materials ordered.

3. The prevalence of orders for multiple copies.
4. The reporting and invoicing requirements set by the contract.
5. Payment rapidity.[12]

Even the casual observer will note that such contracts do not materially improve the competitive advantage of the state in that the acquisition patterns of materials ordered by individual libraries bound by such contracts remain unchanged.

A portion of fault lies with the state in this respect. Under contract provisions, the state approaches prospective vendors as if the libraries involved were a single entity with which the vendor must interact. In most states, the great gamut of libraries of state-supported institutions indicates that a single, even cursory examination will readily yield an understanding of dissimilar needs for materials and services among institutions. The point is underlined by contrasting the library system of the multiversity requiring the services of several hundred vendors to meet the needs of a voracious acquisitions program with the library of a college or small university judiciously selecting only a fraction of available materials, most of which are easily obtainable from reputable vendors.

If contract discounts offered by a wholesaler do not differ appreciably between a contract negotiated by an individual and a collective one negotiated by the state, is there reasonable cause for rejecting state-wide contracts as a viable alternative? Overwhelming evidence demonstrates that concomitant dysfunctional economic consequences far outweigh any demonstrated benefits.

The inferior status of the traditional state-wide contract is most clearly seen in four situations:

1. A change of contractors.
2. Inferior service offered by contract vendor.
3. A vendor dropping the contract midway through the contract period.
4. Limited variety and/or varied quality of services offered by vendors.

While these difficulties may be experienced by libraries operating under individually negotiated contracts, the difficulties need not be simultaneously experienced by all within the respective state as is the case of libraries bound by state-wide contracts.

A brief review of the unique qualities of library materials as commodities will promote an understanding of the causes and consequences of such difficulties. Each title, whether of a book, journal, film, or recording is a unique entity. Titles are not interchangeable in spite of similar topic coverage. Each item is originally available from a single source, the publisher. Unlike myriad other commodities purchased by the state, library materials cannot be periodically purchased in quantity lots (exceptions are block purchasing of second-hand collections, opening-day collections, etc.) to be stockpiled for subsequent need. Rather, library materials must be processed title by title. Foreign to the acquisition routines of libraries are such common purchasing concepts as ream, gross, carload lot, hundredweight, assortment, etc.

The item-by-item acquisitions process has special import when considering the economic issues of contracts. Traditionally, libraries have been built title by title. Any attention to orders outstanding or canceled must be an item-by-item process. Replacement of unfilled contract orders with a second vendor potentially doubles the cost of acquiring the title.

The most critical situation in which libraries under a contract find themselves is one in which the vendor reneges on his pledge to complete the contract. Although not a common occurrence, the

devastating effects of a single occurrence offset by manyfold past and future savings (if, indeed, there are such) which advocates propose such contracts achieve through improved discounts.

Like individual institutions, states, in awarding contracts, may err in spite of careful inquiry into past performance and present fiscal condition of the vendor. State-wide contracts insure that all institutions are involved—a situation most unlikely under local autonomy if one observes vendor-preference patterns of libraries throughout the country.

A prime example of the disastrous effects of a vendor dropping a contract midway through the award period occurred recently in Texas. A vendor holding the state-wide contract for journals was unable to fulfill the contract. The expenditure of time and money needed to overcome the confusion of thousands of unclear journal records in a title-by-title process involving more than twenty university libraries, all of them attempting to cope with duplicate journal subscriptions, lapsed journal subscriptions, missing issues, and permanently incomplete volumes, though calculable, is staggering. Incalculable and irreparable is the extent of damage to services that normally would have been extended to library patrons during this period.

As observed earlier, the diverse needs of libraries—the multiversity library system vs. the college library—create a situation in which acceptable service to one library may be totally unacceptable to another. A 20 percent unfilled order-request rate to a library ordering 2,000 times per year may be acceptable. The identical rate to a library ordering 50,000 items per year may not be acceptable. Under state-wide contracts, seldom if ever will all libraries be equally served. Yet, such contracts preclude those libraries incurring inadequate service from contracting with a different vendor. In this circumstance, to continue the contract is a disservice to some; to terminate the contract is a disservice to others. As Robert Jones of Josten's observed: "The point is that service must have a value and the person best able to judge is the person receiving the service. Also, the value of service is in the eyes of the beholder. What is good service to one may be abominable to another."[13]

It is nearly inevitable under such contracts that all libraries within a state must frequently labor unnecessarily under less than satisfactory vendor performance because of hesitancy on the part of the state to cancel the contract. Too many such contracts have been allowed to lapse at the end of the contract period rather than terminated to alleviate the adverse situation in which libraries found themselves. Too few contracts have been canceled in spite of just cause, as is amply demonstrated by libraries.

Unfortunately, as many states have concluded, changing contractors too often merely shifts dissatisfaction from one vendor to another. The change does not attack the cause of dissatisfaction, i.e., the inability of a single vendor to provide equally acceptable levels of service to a heterogeneous group of libraries bound by a state-wide contract.

Changing contractors adds an increased burden universally to state-supported academic libraries. Once the contractor becomes aware of the loss of the contract, the incentive to fill outstanding orders becomes solely one of economic considerations. Special attention is reserved for those libraries which will be continuing customers. The reordering of needlessly canceled less profitable items which might have been fulfilled if the contract were to be renewed is a burden placed upon libraries as one more dysfunctional consequence of such contracts.

Astute librarians have been quick to assimilate bibliographic services offered by various, but not all, vendors. Such

services have been used to supplement acquisition routines of the library as a means of significantly stretching limited budgets. Fortunately for libraries, the array of services is ever-increasing. Primary examples are: standing orders, approval plans, preprocessed materials, and machine-readable bibliographic data.

Libraries which have integrated these services into their acquisition routines must exercise great care to insure that they continue without interruption. Libraries which have concentrated or shifted a major portion of the technical services processing functions to vendors (a prime example is the newly established academic library) are particularly vulnerable to the undesirable, often disastrous, consequences of statewide contracts.

Ample evidence gained through experience illustrates that the quality of services offered by vendors varies significantly in character and quality. Such variations preclude the use of some vendors by a library dependent upon a particular service. In this instance, the diverse needs of academic libraries coupled with the diverse capabilities of vendors highlights yet another limitation of state-wide contracts.

The proposition that the needs of academic libraries differ significantly is probably best illustrated by the actions of those states which exclude such libraries from the provisions of centralized purchasing altogether—the present position of a great majority of the states—and to a lesser extent by those states which:

1. offer libraries access to multiple contractors, e.g., New York. (Unless the state insures that acceptable services are available to all libraries bound by contract provisions, multiple contracts may be little better than the single contract.)
2. permit libraries discretionary use of existing contracts, e.g., Connecticut.
3. exempt certain libraries from contract provisions, often major university libraries, e.g., Minnesota.

No summary of principal conclusions would be complete without some consideration of the effects of state contracts upon vendors. Such contracts in effect lock out those vendors whose philosophy of service emphasizes extensive bibliographic services, including speed of delivery; willingness to obtain publications from minor publishers (associations and other nonprofit publishers) which offer little or no discount; accepting local requirements for invoicing and reporting, etc. Some vendors which enjoy a national reputation for excellent services simply never bid on such contracts, an action clearly indicating the direct relationship between service and discount. Other vendors periodically offer bids that are rejected primarily because service is difficult to measure. While discount rates are simple to comprehend as isolated entities, they may be deceptive to the observer not familiar with the unique characteristics of library materials and their supply systems.

Few will debate the proposition that the extent and quality of services offered by the contract vendor upon which academic libraries are becoming increasingly dependent as a means of greater economy are directly related to discounts offered. As discussed previously, state-wide contracts force vendors to accept portions of contracts which they neither want nor can handle adequately. Too, such contracts may defeat the very purpose for which they were intended—to provide competition among jobbers to insure the best possible price to the state—as mentioned earlier by Jones and in the following observation by a librarian:

> It seems to me that a very unhealthy business situation is created. I will illustrate by my own experience. When-

ever the time approaches to publish the new invitation to bid, the Texas state college librarians look for ways to retain the present state contractor. We have already experienced at least two contract breakdowns, and want no more. Therefore, we are aiding in the creation of a monopolistic contractor. . . . Presumably, the law was intended to obtain the best price for the participating library. As the monopoly grows, the participating library will obtain a progressively less favorable price.[14]

Summary

Amassed throughout the inquiry was evidence that few, if any, advantages accrue to the state, the library, or the vendor through utilization of state-wide contracts. Though theoretically negligible savings are possible through the utilization of such contracts, actual practice indicates that concomitant dysfunctional consequences of state-wide contracts result in needless expenditures annually which outstrip manifoldly any suggested savings achieved through discounts derived from competitive bidding.

As observed by purchasing agents, librarians, and library vendors, the library may enjoy equal benefits through individually-negotiated contracts and integration of other sound business practices into acquisition procedures as the state can gain by the collective contract. Moreover, the library under the individually negotiated contract is not subject to the diverse and destructive dysfunctional consequences inherent in state-wide contracts.

These conclusions are not unique to this investigation. The states of California and Oregon, after extensive formal inquiry into the potential applicability of such contract provisions, rejected such provisions as detrimental to the interests of both the state and its libraries.[15] Informal inquiries in other states conducted by librarians have rejected state contracts citing the same dysfunctional consequences.[16] In summation, the state and its state-supported academic libraries can be better served by allowing each individual library to select the optimum method of meeting its own unique set of needs.

References

1. Throughout the remainder of this paper, the use of the term "contract" or a variant form connotes state-wide contracts for library reading materials negotiated by the state in behalf of *all* state-supported academic libraries within the state. While many of the observations in this paper may be applicable to circumstances in which state contracts cover only a portion of state-supported academic libraries or other circumstances in which libraries retain the option of whether or not to utilize existing state-wide contracts, the focus of the investigation was upon circumstances in which all academic libraries of state-supported institutions are bound by contracts negotiated by the state.
2. One of the most perceptive accounts of the interactions between libraries and library suppliers is: Daniel Melcher with Margaret Saul, *Melcher on Acquisition* (Chicago: American Library Association, 1971). While Melcher's focus is larger than the focus of this paper, many of the insights offered are wholly applicable. The title ought to be perused thoroughly by anyone interested in the topic of contracts.
3. More than three-quarters of the states surveyed exempt library materials from such contract provisions.
4. Personal letter written by Frank Rogers, director of the library, Portland State University, Oregon, to the author on 13 Nov. 1972.
5. Personal letter written by Henry H. Knouft, director of purchases, State of Kansas, to the author on 30 Oct. 1972.
6. Observation by Don Chvatal, representative Richard Abel and Co., Inc.
7. Melcher, *Melcher on Acquisition*.
8. Personal letter written by M. A. Kinley, chief, Purchasing and Supply Division,

State of Hawaii, to the author on 14 Nov. 1972.

9. Library, Sacramento State College, California. "Some Comments on the Matter of Centralized Purchasing of Library Books," 1965.
10. *Publishers' Weekly*, 196:23 (1 Dec. 1969).
11. Personal letter written by Robert A. Jones, vice-president, Library Services, Josten's to the author on 28 Nov. 1972.
12. Telephone conversation between Arthur Brody, president, Bro-Dart Company, and the author, 8 Nov. 1972.
13. Personal letter written by Robert A. Jones, op. cit.
14. Personal letter written by Louis Maloney, librarian, Southwest Texas State University, Texas, to the author on 6 Dec. 1972.
15. Personal letter written by John S. Babich, chief of procurement, Department of General Services, State of California, to the author on 3 Nov. 1972; Educational Coordinating Council, Oregon. *Joint Library Committee Report*, 1972.
16. Personal letter written by Dewey E. Carroll, director of libraries, The University of Tennessee at Chattanooga, Tennessee, to the author on 2 Nov. 1972; personal letter written by Dan W. Graves, director of libraries, Clarion State College, Pennsylvania, to the author on 3 Nov. 1972.

FRED HEINRITZ

Rate of Growth For Library Collections

A table is given to show conveniently up to a twenty-year interval and/or a doubling of the collection the annual rate of growth of any library collection, given the growth period in years and the size of the collection at the beginning and end of this period. A formula for determining solutions beyond the limits of the table is also derived and illustrated.

The Background

Ever since research libraries began in the United States, over three centuries ago, their collections have on the average been doubling in size every sixteen years. When these libraries were small, their librarians did not worry particularly about the rate of growth of their collections. But about the time of the Second World War, as building, and hence storage, costs increased, Rider and others sounded the alarm.[1] The problem has been exacerbated by the current squeeze on public funds. Academic and research librarians are by now tired of hearing, and are only too aware, that their collections are increasing at a geometrical, rather than at an arithmetical, rate.

Since an approximately constant (exponential) rate of growth represents the true state of affairs, it is of value to librarians planning building needs or engaging in other research involving comparisons and predictions of collection growth, to know the rate of growth for given situations. The accompanying table gives this result directly for periods up to twenty years, saving the need for laborious computation.

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Use of the Table

The only data needed to use the table are the number of years covered (T), and the size of the collection at the beginning (P) and end (A) of this period. As an example of use, suppose that a collection has grown from 1,000,000 to 1,700,000 volumes over eight years. A/P = 1.700. The answer lies at the intersection of the 1.700 row and the 08 column. This value, 0.069, represents an annual growth rate of 6.9 percent.

Extension of the Table

For time periods exceeding twenty years and/or A/P values exceeding 2.000, the rate of growth may be calculated by the following formula. (For the derivation, see the Mathematical Note.)

$$\text{Annual Rate of Growth} = \text{Antilog}\left[\frac{\log (A/P)}{T}\right] - 1$$

For example, if a library grows from 136,260 to 874,999 volumes over a forty year period, the annual rate of growth is 4.76 percent.[2] The calculations are:

TABLE 1

ANNUAL RATE OF GROWTH OF A LIBRARY COLLECTION OVER T YEARS, BEGINNING WITH P AND ENDING WITH A ITEMS

	T									
A/P	02	04	06	08	10	12	14	16	18	20
1.050	0.025	0.012	0.008	0.006	0.005	0.004	0.003	0.003	0.003	0.002
1.100	0.049	0.024	0.016	0.012	0.010	0.008	0.007	0.006	0.005	0.005
1.150	0.072	0.036	0.024	0.018	0.014	0.012	0.010	0.009	0.008	0.007
1.200	0.095	0.047	0.031	0.023	0.018	0.015	0.013	0.011	0.010	0.009
1.250	0.118	0.057	0.038	0.028	0.023	0.019	0.016	0.014	0.012	0.011
1.300	0.140	0.068	0.045	0.033	0.027	0.022	0.019	0.017	0.015	0.013
1.350	0.162	0.078	0.051	0.038	0.030	0.025	0.022	0.019	0.017	0.015
1.400	0.183	0.088	0.058	0.043	0.034	0.028	0.024	0.021	0.019	0.017
1.450	0.204	0.097	0.064	0.048	0.038	0.031	0.027	0.023	0.021	0.019
1.500	0.225	0.107	0.070	0.052	0.041	0.034	0.029	0.026	0.023	0.020
1.550	0.245	0.116	0.076	0.056	0.045	0.037	0.032	0.028	0.025	0.022
1.600	0.265	0.125	0.081	0.061	0.048	0.040	0.034	0.030	0.026	0.024
1.650	0.285	0.133	0.087	0.065	0.051	0.043	0.036	0.032	0.028	0.025
1.700	0.304	0.142	0.092	0.069	0.054	0.045	0.039	0.034	0.030	0.027
1.750	0.323	0.150	0.098	0.072	0.058	0.048	0.041	0.036	0.032	0.028
1.800	0.342	0.158	0.103	0.076	0.061	0.050	0.043	0.037	0.033	0.030
1.850	0.360	0.166	0.108	0.080	0.063	0.053	0.045	0.039	0.035	0.031
1.900	0.378	0.174	0.113	0.084	0.066	0.055	0.047	0.041	0.036	0.033
1.950	0.396	0.182	0.118	0.087	0.069	0.057	0.049	0.043	0.038	0.034
2.000	0.414	0.189	0.122	0.091	0.072	0.059	0.051	0.044	0.039	0.035

A. R. of G.

$$= \text{Antilog}\left[\frac{\log (874{,}999/136{,}260)}{40}\right] - 1$$

$$= \text{Antilog}\left[\frac{\log (6.4215)}{40}\right] - 1$$

$$= \text{Antilog}\left[\frac{0.80763}{40}\right] - 1$$

$$= \text{Antilog}\ [0.02019] - 1$$

$$= 1.0476 - 1$$

$$= 0.0476$$

MATHEMATICAL NOTE

The mathematics for a constant rate of growth is identical to that for compound interest. Thus the problem is, given A, P, and T, to solve

$$A = P\ (1 + i)^T$$

for i. For both sides of the equation (1) take the logarithm, (2) subtract log P, (3) divide by T, (4) take the antilogarithm, (5) subtract one. This gives us

$$i = (A/P)^{1/T} - 1$$

which for computational purposes is more conveniently expressed as

$$i = \text{Antilog}\left[\frac{\log (A/P)}{T}\right] - 1$$

REFERENCES

1. Fremont Rider, *The Scholar and the Future of the Research Library; A Problem and Its Solution* (New York: Hadham Press, 1944).
2. J. Periam Danton, *Book Selection and Collections; A Comparison of German and American University Libraries* (New York: Columbia Univ. Pr., 1963), p.103.

ROBERT B. DOWNS

Library Resources in the United States

This is the third investigation of the distribution of American library resources, undertaken at approximately twenty-year intervals. The 1973 study reveals a phenomenal growth in library collections during the past eighteen years. During that period, the number of centers in the United States holding in excess of 500,000 volumes each increased from 109 to 265, and the total number of volumes in such centers expanded nearly threefold.

A PIONEER STUDY OF THE DISTRIBUTION of American library resources was reported in Louis Round Wilson's *Geography of Reading*. Based on sources published in 1935, Wilson discovered that there were in the United States at that time seventy-seven centers of not over fifty miles radius (airline) holding 500,000 volumes or more.[1]

The specifications stated by Wilson for computing his data were thus defined:

> In general, the area included does not cover more than 50 miles (airline) from center. When a city could be attached to more than one center, the total number of volumes in the area and transportation facilities were considered in allocating it. Public or college libraries of less than 20,000 volumes and special libraries of less than 5,000 volumes were not included. State lines were not crossed except in special cases. Centers such as Newark were maintained separately. No city was chosen as a center unless it contained one library having at least 75,000 volumes. Preference was given to state capitals, or cities in which state universities were located. Metropolitan areas were selected unless the library center would fall elsewhere.

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Utilizing the same or similar sources of information, the Wilson study was updated about twenty years later.[2] The second investigation revealed the relative ranks of the various centers, the number of volumes in each area in 1955 as compared to 1935, and the increase in volumes. The number of centers was found to have grown from 77 to 109 during the twenty-year period.

In 1973, with assistance from a group of students in the University of Illinois Graduate School of Library Science, a second updating was undertaken.* The results were little short of startling. As shown in Table 1, the number of centers in the United States holding in excess of 500,000 volumes each had jumped from 109 in 1955 to 265 in 1973. Even more striking, the total number of volumes in such centers had gone from 138,867,606 volumes in 1935 to 289,355,391 in 1955 to 724,045,043 volumes in 1973—more than a fivefold increase in less than forty years. The growth rate during the past eighteen years is especially phenomenal.

Table 2 contains a breakdown of the 265 centers by states. Possessing the greatest number of centers with more than 500,000 volumes each was California, with a total of 21, followed by Ohio with 18, New York and Texas with

*Under the chairmanship of Anne Billeter and Roland Streit.

TABLE 1

LIBRARY CENTERS, OF NOT OVER 50 MILES RADIUS (AIRLINE), CONTAINING 500,000 VOLUMES OR MORE

City	Rank 1973	Volumes in Area, 1973	Rank 1955	Volumes in Area, 1955	Rank 1935	Volumes in Area, 1935
New York City, N.Y.	1	47,305,190	2	24,688,777	1	12,910,623
Washington, D. C.	2	39,728,774	1	25,356,917	2	11,744,966
Boston, Mass.	3	30,467,291	3	18,334,377	3	10,709,614
Los Angeles, Calif.	4	24,455,236	5	10,096,635	5	6,564,016
Chicago, Ill.	5	22,414,327	4	12,519,393	4	6,691,144
Philadelphia, Pa.	6	14,759,903	6	7,867,242	6	4,805,252
San Francisco, Calif.	7	13,906,443	7	6,901,607	8	3,558,191
Minneapolis, Minn.	8	10,629,127	11	4,988,889	13	2,475,322
San Jose; Stanford, Calif.	9	10,350,412	26	3,006,064	22	1,551,791
Newark, N.J.	10	10,296,596	9	6,024,375	9	2,955,827
Cleveland, Ohio	11	9,142,394	8	6,140,556	7	3,835,889
Pittsburgh, Pa.	12	9,076,306	16	3,937,179	16	2,136,108
Detroit, Mich.	13	8,322,385	18	3,707,637	25	1,404,736
Baltimore, Md.	14	8,257,188	12	4,857,922	12	2,477,779
Dallas, Tex. (Ft. Worth, Denton)	15	8,239,108	37	1,963,176	70	570,746
St. Louis, Mo.	16	7,713,880	22	3,217,632	14	2,269,662
New Haven, Conn.	17	7,496,069	10	5,330,221	10	2,868,781
Albany, N.Y.	18	7,271,047	13	4,498,344	19	1,902,574
Providence, R.I.: Fall River; New Bedford, Mass.	19	7,262,748	19	3,646,088	11	2,607,138
Columbus, Ohio	20	7,261,341	14	4,119,799	20	1,813,637
Buffalo, N.Y.	21	6,504,369	29	2,809,211	27	1,341,455
Springfield, Mass.	22	5,729,951	23	3,170,131	17	2,099,229
Cincinnati, Ohio	23	5,592,171	17	3,750,316	18	2,066,825
Seattle, Wash.	24	5,525,875	24	3,122,956	36	1,064,818
San Diego, Calif.	25	5,277,346	70	1,010,631	77	500,383
Urbana, Ill.	26	5,199,575	25	3,072,034	33	1,184,928
Ann Arbor, Mich.	27	5,103,299	28	2,884,529	35	1,074,274
Milwaukee, Wis.	28	5,074,643	31	2,673,066	21	1,565,732
Kansas City, Mo. and Kans.	29	5,021,465	40	1,937,367	47	788,837
Chapel Hill; Durham, N.C.	30	4,996,743	21	3,337,247	34	1,091,858
Atlanta, Ga.	31	4,873,274	42	1,865,435	54	715,842
Sacramento, Calif.	32	4,857,605	38	1,958,441	23	1,534,107
Madison, Wis.	33	4,813,740	36	2,155,846	26	1,341,899
Evanston, Ill.	34	4,683,075				
Ithaca, N.Y.	35	4,654,116	32	2,573,378	31	1,264,920
Nashville, Tenn.	36	4,600,596	51	1,526,868	46	791,242
Houston, Tex.	37	4,596,864	63	1,231,685		
New Orleans, La.	38	4,301,324	49	1,625,299	56	702,703
Rochester, N.Y.	39	4,279,592	46	1,836,532	24	1,515,438
Beltsville, Md.	40	4,266,040				
Hartford, Conn.	41	4,251,603	20	3,583,938	58	691,217
Austin, Tex.	42	4,219,067	41	1,918,420	49	783,391
Denver, Colo.	43	4,150,133	30	2,715,259	32	1,212,159
Lansing, Mich.	44	3,918,201	34	2,351,614	45	797,736
Worcester, Mass.	45	3,809,191	35	2,341,469	28	1,315,636
Salt Lake City, Utah	46	3,773,746	65	1,218,566		
Orange, Calif.	47	3,564,404				
New Brunswick, N.J.	48	3,476,954				
Miami, Fla.	49	3,421,391	88	757,906		
Princeton, N.J.	50	3,367,802	15	4,040,143	15	2,150,512
Indianapolis, Ind.	51	3,326,594	27	3,000,499	30	1,266,031
Oklahoma City, Okla.	52	3,242,373	50	1,550,821	68	604,140
Dayton, Ohio	53	3,189,778	48	1,637,991	41	955,198
Phoenix, Ariz.	54	3,171,641	84	815,778		
Syracuse, N.Y.	55	3,039,009	77	906,084	57	695,565
Bloomington, Ind.	56	2,932,410				
Bridgeport, Conn.	57	2,917,130	61	1,240,975	65	607,834
Arlington, Va.	58	2,916,734				

TABLE 1—Continued

City	Rank 1973	Volumes in Area, 1973	Rank 1955	Volumes in Area, 1955	Rank 1935	Volumes in Area, 1935
Knoxville, Tenn.	59	2,821,730	85	801,299		
Richmond, Va.	60	2,777,141	53	1,441,119	61	651,842
Portland, Oreg.	61	2,776,170	59	1,322,670	53	759,320
Norfolk, Va.	62	2,762,843	104	590,478		
Honolulu, Hawaii	63	2,706,530				
Springfield, Ill.	64	2,659,113	44	1,851,364	60	667,247
Tucson, Ariz.	65	2,542,726				
Toledo, Ohio	66	2,460,024	82	818,293	63	620,711
Columbia, Mo.	67	2,449,138	55	1,413,600	55	715,829
Columbia, S.C.	68	2,442,470	73	960,247		
Charlottesville, Va.	69	2,359,824	67	1,069,935		
Poughkeepsie, N.Y.	70	2,346,182	81	822,856	64	613,535
San Antonio, Tex.	71	2,311,777	87	782,248		
Stony Brook, N.Y.	72	2,283,336				
Bethlehem, Pa.	73	2,276,772	68	1,048,181	50	783,274
Louisville, Ky.	74	2,275,897	71	1,003,900	71	537,494
Santa Barbara, Calif.	75	2,238,939	101	623,121		
South Bend, Ind.	76	2,221,157	76	991,314		
State College, Pa.	77	2,202,977	92	715,896		
Harrisburg, Pa.	78	2,195,208	47	1,743,178	43	902,802
Charlotte, N.C.	79	2,153,951	96	670,739		
Claremont, Calif.	80	2,129,149				
Bethesda, Md.	81	2,128,960				
Baton Rouge, La.	82	2,102,149	54	1,415,255		
Gainesville, Fla.	83	2,102,081	94	686,243		
Memphis, Tenn.	84	2,087,296				
Ft. Wayne, Ind.	85	2,049,834	66	1,133,926		
Des Moines, Iowa	86	2,033,167	43	1,851,960	40	972,814
Lowell, Mass.	87	2,020,728	105	580,119	48	784,843
Lincoln, Nebr.	88	2,003,156	62	1,237,610	37	1,031,052
Roanoke, Va.	89	1,966,640	79	859,511		
Fresno, Calif.	90	1,943,257	72	971,751	38	995,404
Gary, Ind.	91	1,897,864	89	739,501		
Greenville, S.C.	92	1,862,782	98	658,138		
Iowa City, Iowa	93	1,823,655	56	1,401,880	59	679,405
Wilmington, Del.	94	1,807,400	100	629,775		
Birmingham, Ala.	95	1,798,117	57	1,374,977	76	508,381
Charleston, W. Va.	96	1,788,628	95	678,681		
Morgantown, W. Va.	97	1,745,301	102	596,929		
Lafayette, Ind.	98	1,741,722	69	1,020,870	75	513,855
Athens, Ga.	99	1,736,052				
Utica, N.Y.	100	1,733,360	75	917,844	74	514,373
Greensboro, N.C.	101	1,729,099				
Grand Rapids, Mich.	102	1,713,913	60	1,299,376	52	775,680
Boulder, Colo.	103	1,713,287				
Lexington, Ky.	104	1,711,201	52	1,475,022	69	578,806
Lawrence, Kans.	105	1,703,603				
Carlisle Barracks, Pa.	106	1,683,676				
San Bernardino, Calif.	107	1,677,737				
Kalamazoo, Mich.	108	1,673,680				
Carbondale, Ill.	109	1,672,492				
Muncie, Ind.	110	1,662,381				
Topeka, Kans.	111	1,660,161	33	2,505,793	29	1,293,901
Mount Pleasant, Mich.	112	1,637,231				
Bowling Green, Ohio	113	1,636,219				
Winston-Salem, N.C.	114	1,618,747				
Omaha, Nebr.	115	1,616,670	91	724,850		
Akron, Ohio	116	1,595,648	39	1,937,456	44	799,509
Rockville, Md.	117	1,594,171				
Tallahassee, Fla.	118	1,566,269	109	537,755		
Stockton, Calif.	119	1,557,424				
Little Rock, Ark.	120	1,547,068	90	736,870		

TABLE 1—Continued

City	Rank 1973	Volumes in Area, 1973	Rank 1955	Volumes in Area, 1955	Rank 1935	Volumes in Area, 1935
Lancaster, Pa.	121	1,526,941				
Albuquerque, N. Mex.	122	1,518,453				
Canton, Ohio	123	1,512,423				
Tulsa, Okla.	124	1,508,558	93	693,836		
De Kalb, Ill.	125	1,477,499				
Stillwater, Okla.	126	1,461,912				
Riverside, Calif.	127	1,444,869				
Oberlin, Ohio	128	1,411,600				
Orlando, Fla.	129	1,404,908				
Raleigh, N.C.	130	1,403,434				
Jackson, Miss.	131	1,395,780				
Ft. Collins, Colo.	132	1,389,566				
Youngstown, Ohio	133	1,382,065				
Wichita, Kans.	134	1,372,265				
Lubbock, Tex.	135	1,365,848				
Wilkes-Barre, Pa.	136	1,363,365	108	546,564		
Oshkosh, Wis.	137	1,355,814	78	892,690		
Augusta, Maine	138	1,341,908	64	1,230,769	39	989,944
Portland, Maine	139	1,335,429				
Hanover, N.H.	140	1,324,377	80	831,089	73	523,641
Schenectady, N.Y.	141	1,314,360				
Eugene, Oreg.	142	1,305,048				
Trenton, N.J.	143	1,296,306				
Tuscaloosa, Ala.	144	1,287,680				
Terre Haute, Ind.	145	1,255,784				
Tacoma, Wash.	146	1,253,235				
Hayward, Calif.	147	1,246,153				
Erie, Pa.	148	1,209,573	107	547,168		
Springfield, Ohio	149	1,195,714				
Colorado Springs, Colo.	150	1,193,829				
Concord, N.H.	151	1,185,437	58	1,344,355	51	782,818
Storrs, Conn.	152	1,173,821				
Davis, Calif.	153	1,169,537				
Annapolis, Md.	154	1,166,092				
Tampa, Fla.	155	1,161,051				
Spokane, Wash.	156	1,151,320				
Athens, Ohio	157	1,144,112	97	664,610		
Fort Monmouth, N.J.	158	1,125,176				
Montgomery, Ala.	159	1,110,148	86	797,701		
Kent, Ohio	160	1,100,213				
Provo, Utah	161	1,095,405				
Monterey, Calif.	162	1,093,615				
Auburn, Ala.	163	1,086,535				
Olympia, Wash.	164	1,069,806				
Oxford, Ohio	165	1,067,620				
Salem, Oreg.	166	1,043,685				
Jacksonville, Fla.	167	1,043,047				
Ames, Iowa	168	1,039,313				
Burlington, Vt.	169	1,037,185				
Greenville, N.C.	170	1,023,298				
Ruston, La.	171	1,021,471				
Binghamton, N.Y.	172	1,007,284				
Waco, Tex.	173	997,516				
Evansville, Ind.	174	990,301	106	560,300		
Bangor, Maine	175	986,053				
Springfield, Mo.	176	979,513				
Fayetteville, Ark.	177	974,319				
El Paso, Tex.	178	956,189				
St. Petersburg, Fla.	179	955,628				
Reno, Nev.	180	942,792				
Middletown, Conn.	181	939,449				
Wooster, Ohio	182	918,807				

TABLE 1—Continued

City	Rank 1973	Volumes in Area, 1973	Rank 1955	Volumes in Area, 1955	Rank 1935	Volumes in Area, 1935
Chattanooga, Tenn.	183	914,241				
Montpelier, Vt.	184	913,346	74	952,662	67	607,570
Canyon, Tex.	185	899,747				
Camden, N.J.	186	898,206				
Normal, Ill.	187	891,302				
Green Bay, Wis.	188	886,991				
Pullman, Wash.	189	853,458				
Macomb, Ill.	190	847,790				
Delaware, Ohio	191	845,605				
Peoria, Ill.	192	842,319	83	817,470	66	607,659
Pleasant Hill, Calif.	193	839,847				
Cedar Falls, Iowa	194	834,364				
Huntsville, Ala.	195	831,572				
Boise, Idaho	196	830,300				
Chico, Calif.	197	829,788				
Moscow, Idaho	198	822,006				
Columbus, Ga.	199	813,333				
College Station, Tex.	200	812,595				
Mankato, Minn.	201	812,032				
Macon, Ga.	202	807,907				
St. Cloud, Minn.	203	795,881				
Lima, Ohio	204	788,486				
Santa Fe, N. Mex.	205	788,186				
Durham, N.H.	206	788,142				
Edwardsville, Ill.	207	785,830				
Jefferson City, Mo.	208	775,898				
Laramie, Wyo.	209	774,593				
Asheville, N.C.	210	766,151				
Missoula, Mont.	211	763,420				
Corpus Christi, Tex.	212	747,629				
Santa Cruz, Calif.	213	747,168				
Manhattan, Kans.	214	742,916				
Corvallis, Oreg.	215	741,003	45	1,843,038	42	903,154
Elmira, N.Y.	216	740,676				
Charleston, S.C.	217	733,163				
Winona, Minn.	218	725,233				
Walla Walla, Wash.	219	714,114				
Gadsden, Ala.	220	713,584				
Bakersfield, Calif.	221	710,623	103	593,277	62	641,660
Albany, Ga.	222	703,748				
Stevens Point, Wis.	223	699,444				
Potsdam, N.Y.	224	698,432				
Savannah, Ga.	225	697,804				
Zanesville, Ohio	226	697,733				
University, Miss.	227	690,916				
Pensacola, Fla.	228	685,479				
Dubuque, Iowa	229	681,616				
Abilene, Tex.	230	672,570				
Cedar Rapids, Iowa	231	667,926				
Richmond, Ky.	232	662,418				
Galveston, Tex.	233	661,734				
Davenport, Iowa	234	657,329				
Johnson City, Tenn.	235	656,722				
New London, Conn.	236	647,307				
Fayetteville, N.C.	237	634,126				
Manchester, N.H.	238	627,143				
Hattiesburg, Miss.	239	625,371				
San Luis Obispo, Calif.	240	615,178				
Augusta, Ga.	241	611,611				
Commerce, Tex.	242	605,408				
Pocatello, Idaho	243	601,187				
Mobile, Ala.	244	574,403				

TABLE 1—Continued

City	Rank 1973	Volumes in Area, 1973	Rank 1955	Volumes in Area, 1955	Rank 1935	Volumes in Area, 1935
Sioux City, Iowa	245	562,026				
Logan, Utah	246	561,698				
Bozeman, Mont.	247	561,331				
Warrensburg, Mo.	248	560,133				
Frankfort, Ky.	249	557,694				
Rock Island, Ill.	250	556,179	99	654,067		
Alfred, N.Y.	251	542,819				
State University, Ark.	252	541,639				
Boone, N.C.	253	538,170				
LaFayette, La.	254	537,511				
Eureka, Calif.	255	537,197				
State College, Miss.	256	534,827				
Martin, Tenn.	257	528,921				
Vermillion, S. Dak.	258	523,096				
Helena, Mont.	259	522,182				
Hanover, Ind.	260	522,027				
Huntsville, Tex.	261	521,186				
Fairfield, Iowa	262	516,266				
Grand Forks, N. Dak.	263	509,519				
Emporia, Kans.	264	502,946				
Medford, Oreg.	265	500,723				
TOTAL		724,045,043		289,355,391		138,867,606

(The apparent loss of volumes in some centers is the result of the establishment of new centers and subtraction of their holdings from older centers.)

TABLE 2

LIBRARY CENTERS ARRANGED BY STATES

Alabama (7)		Sacramento	4,857,605
Auburn	1,086,535	San Bernardino	1,677,737
Birmingham	1,798,117	San Diego	5,277,346
Gadsden	713,584	San Francisco	13,906,443
Huntsville	831,572	San Jose-Stanford	10,350,412
Mobile	574,403	San Luis Obispo	615,178
Montgomery	1,110,148	Santa Barbara	2,238,939
Tuscaloosa	1,287,680	Santa Cruz	747,168
Alaska (0)		Stockton	1,557,424
Arizona (2)		Colorado (4)	
Phoenix	3,171,641	Boulder	1,713,287
Tucson	2,542,726	Colorado Springs	1,193,829
Arkansas (3)		Denver	4,150,133
Fayetteville	974,319	Ft. Collins	1,389,566
Little Rock	1,547,068	Connecticut (6)	
State University	541,639	Bridgeport	2,917,130
California (21)		Hartford	4,251,603
Bakersfield	710,623	Middletown	939,449
Chico	829,788	New Haven	7,496,069
Claremont	2,129,149	New London	647,307
Davis	1,169,537	Storrs	1,173,821
Eureka	537,197	Delaware (1)	
Fresno	1,943,257	Wilmington	1,807,400
Hayward	1,246,153	District of Columbia (1)	
Los Angeles	24,455,236	D.C.	39,728,774
Monterey	1,093,615	Florida (8)	
Orange	3,564,404	Gainesville	2,102,081
Pleasant Hill	839,847	Jacksonville	1,043,047
Riverside	1,444,869	Miami	3,553,788

TABLE 2—Continued

Orlando	1,404,908
Pensacola	685,479
St. Petersburg	955,628
Tallahassee	1,566,269
Tampa	1,161,051
Georgia (7)	
Albany	703,748
Athens	1,736,052
Atlanta	4,873,274
Augusta	611,611
Columbus	813,333
Macon	807,907
Savannah	697,804
Hawaii (1)	
Honolulu	2,706,530
Idaho (3)	
Boise	830,300
Moscow	822,006
Pocatello	601,187
Illinois (11)	
Carbondale	1,672,492
Chicago	22,414,327
De Kalb	1,477,499
Evanston	4,683,075
Edwardsville	785,830
Macomb	847,790
Normal	891,302
Peoria	842,319
Rock Island	556,179
Springfield	2,659,113
Urbana	5,199,575
Indiana (10)	
Bloomington	2,932,410
Evansville	990,301
Ft. Wayne	2,049,834
Gary	1,897,864
Hanover	522,027
Indianapolis	3,326,594
Lafayette	1,741,722
Muncie	1,662,381
South Bend	2,221,157
Terre Haute	1,255,784
Iowa (9)	
Ames	1,039,313
Cedar Falls	834,364
Cedar Rapids	667,926
Davenport	657,329
Des Moines	2,033,167
Dubuque	681,616
Fairfield	516,266
Iowa City	1,823,655
Sioux City	562,026
Kansas (5)	
Emporia	502,946
Lawrence	1,703,603
Manhattan	742,916
Topeka	1,660,161
Wichita	1,372,265
Kentucky (4)	
Frankfort	557,694
Lexington	1,711,201
Louisville	2,275,897
Richmond	662,418
Louisiana (4)	
Baton Rouge	2,102,149
LaFayette	537,511
New Orleans	4,301,324
Ruston	1,021,471
Maine (3)	
Augusta	1,341,908
Bangor	986,053
Portland	1,335,429
Maryland (5)	
Annapolis	1,166,092
Baltimore	8,257,188
Beltsville	4,266,040
Bethesda	2,128,960
Rockville	1,594,171
Massachusetts (4)	
Boston	30,467,291
Lowell	2,020,728
Springfield	5,729,951
Worcester	3,809,191
Michigan (6)	
Ann Arbor	5,103,299
Detroit	8,322,385
Grand Rapids	1,713,913
Kalamazoo	1,673,680
Lansing	3,918,201
Mount Pleasant	1,637,231
Minnesota (4)	
Minneapolis	10,629,127
Mankato	812,032
St. Cloud	795,881
Winona	725,233
Mississippi (4)	
Hattiesburg	625,371
Jackson	1,395,780
State College	534,827
University	690,916
Missouri (6)	
Columbia	2,449,138
Jefferson City	775,898
Kansas City (Mo. & Kans.)	5,021,465
St. Louis	7,713,880
Springfield	979,513
Warrensburg	560,133
Montana (3)	
Bozeman	561,331
Helena	522,182
Missoula	763,420
Nebraska (2)	
Lincoln	2,003,156
Omaha	1,616,670
Nevada (1)	
Reno	942,792
New Hampshire (4)	
Concord	1,185,437
Durham	788,142
Hanover	1,324,377
Manchester	627,143
New Jersey (6)	
Camden	898,206
Fort Monmouth	1,125,176
New Brunswick	3,476,954
Newark	10,296,596
Princeton	3,367,802
Trenton	1,296,306
New Mexico (2)	
Albuquerque	1,518,453

TABLE 2—Continued

Santa Fe	788,186
New York (14)	
Albany	7,271,047
Alfred	542,819
Binghamton	1,007,284
Buffalo	6,504,369
Elmira	740,676
Ithaca	4,654,116
New York City	47,305,190
Potsdam	698,432
Poughkeepsie	2,346,182
Rochester	4,279,592
Schenectady	1,314,360
Stony Brook	2,283,336
Syracuse	3,039,009
Utica	1,733,360
North Carolina (9)	
Asheville	766,151
Boone	538,170
Chapel Hill-Durham	4,996,743
Charlotte	2,153,951
Fayetteville	634,126
Greensboro	1,729,099
Greenville	1,023,298
Raleigh	1,403,434
Winston-Salem	1,618,747
North Dakota (1)	
Grand Forks	509,519
Ohio (18)	
Akron	1,595,648
Athens	1,144,112
Bowling Green	1,636,219
Canton	1,512,423
Cincinnati	5,592,171
Cleveland	9,142,394
Columbus	7,261,341
Dayton	3,189,778
Delaware	845,605
Kent	1,100,213
Lima	788,486
Oberlin	1,411,600
Oxford	1,067,620
Springfield	1,195,714
Toledo	2,460,024
Wooster	918,807
Youngstown	1,382,065
Zanesville	697,733
Oklahoma (3)	
Oklahoma City	3,242,373
Stillwater	1,461,912
Tulsa	1,508,558
Oregon (5)	
Corvallis	741,003
Eugene	1,305,048
Medford	500,723
Portland	2,690,920
Salem	1,043,685
Pennsylvania (9)	
Bethlehem	2,276,772
Carlisle Barracks	1,683,676
Erie	1,209,573
Harrisburg	2,195,208
Lancaster	1,526,941
Philadelphia	14,759,903
Pittsburgh	9,076,306
State College	2,202,977
Wilkes-Barre	1,363,365
Rhode Island (1)	
Providence	7,262,748
South Carolina (3)	
Charleston	733,163
Columbia	2,442,470
Greenville	1,862,782
South Dakota (1)	
Vermillion	523,096
Tennessee (6)	
Chattanooga	914,241
Johnson City	656,722
Knoxville	2,821,730
Martin	528,921
Memphis	2,087,296
Nashville	4,600,596
Texas (14)	
Abilene	682,570
Austin	4,219,067
Canyon	899,747
College Station	812,595
Commerce	605,408
Corpus Christi	747,629
Dallas	8,239,108
El Paso	956,189
Galveston	661,734
Houston	4,596,864
Huntsville	521,186
Lubbock	1,365,848
San Antonio	2,311,777
Waco	997,516
Utah (3)	
Logan	561,698
Provo	1,095,405
Salt Lake City	3,773,746
Vermont (2)	
Burlington	1,037,185
Montpelier	918,346
Virginia (5)	
Arlington	2,916,734
Charlottesville	2,359,824
Norfolk	2,762,843
Richmond	2,777,141
Roanoke	1,966,640
Washington (6)	
Olympia	1,069,806
Pullman	853,458
Seattle	5,525,875
Spokane	1,151,320
Tacoma	1,253,235
Walla Walla	714,114
West Virginia (2)	
Charleston	1,788,628
Morgantown	1,745,301
Wisconsin (5)	
Green Bay	886,991
Madison	4,813,740
Milwaukee	5,046,357
Oshkosh	1,355,814
Stevens Point	699,444
Wyoming (1)	
Laramie	774,593

14 each, and Illinois with 11.

The complete data, presented in Table 1, indicate the relative rank of the centers in each of the three periods investigated and the number of volumes held by the various centers. Among the first dozen in the top group, changes in relative standing have been minor, with a few exceptions; most notable are the new rankings for the San Jose-Stanford area, Minneapolis, San Francisco, and Pittsburgh. New York, Washington, D.C., and Boston have remained the leading three throughout the nearly four decades.

Below the leaders, numerous shifts in rank may be observed. Dallas has come up from thirty-seventh to fifteenth; San Diego from seventieth to twenty-fifth; Houston from sixty-third to thirty-seventh; Miami from eighty-eighth to forty-ninth. Among the first 100 centers, 77 did not possess a sufficient number of volumes to be listed by Wilson in 1935.

At approximately the same date as the Wilson study, another investigation took place to determine the distribution of library resources by states.[3] More emphasis here was placed on collections of possible research importance. The specifics for inclusion were "all educational libraries with over 25,000 volumes, all public libraries over 50,000, and all special libraries of a research nature."

Table 3 brings down to 1973 the number of volumes held by the individual states, according to the foregoing criteria, with relative rankings for 1935 and 1955. Table 4 notes the percentage

TABLE 3

NUMBER OF VOLUMES IN U.S. RESEARCH LIBRARIES, BY STATES

State	Rank 1973	Volumes 1973	Rank 1955	Volumes 1955	Rank 1935	Volumes 1935
New York	1	90,431,000	1	34,041,000	1	16,931,000
California	2	80,638,000	3	23,951,000	2	14,401,000
Massachusetts	3	78,484,000	4	22,951,000	3	12,944,000
Ohio	4	42,909,000	5	18,606,000	5	9,669,000
Illinois	5	40,023,000	6	17,089,000	6	8,907,000
District of Columbia	6	38,773,000	2	25,357,000	4	10,348,000
Pennsylvania	7	31,253,000	7	14,697,000	7	8,056,000
Texas	8	30,733,000	11	6,716,000	16	2,196,000
Michigan	9	24,063,000	8	8,988,000	8	4,427,000
New Jersey	10	21,875,000	10	8,080,000	10	4,137,000
Indiana	11	17,928,000	12	6,520,000	12	3,345,000
Missouri	12	17,879,000	13	6,239,000	11	3,495,000
Maryland	13	17,086,000	18	3,888,000	17	2,163,000
Connecticut	14	16,545,000	9	8,507,000	9	4,220,000
North Carolina	15	15,851,000	19	3,882,000	25	1,131,000
Wisconsin	16	14,935,000	14	6,195,000	13	3,027,000
Minnesota	17	13,951,000	15	5,700,000	14	2,916,000
Virginia	18	13,762,000	20	3,684,000	22	1,552,000
Florida	19	13,724,000	26	2,553,000	35	447,000
Georgia	20	13,616,000	25	2,659,000	31	790,000
Washington	21	12,615,000	16	4,415,000	18	1,665,000
Kentucky	22	11,827,000	29	2,379,000	27	1,011,000
Tennessee	23	10,859,000	28	2,412,000	20	1,642,000
Louisiana	24	10,246,000	24	2,797,000	30	818,000
Iowa	25	9,037,000	17	4,108,000	15	2,527,000
Colorado	26	9,016,000	21	3,098,000	23	1,425,000
Kansas	27	8,229,000	22	3,045,000	19	1,643,000
Alabama	28	7,746,000	30	2,292,000	32	763,000
Oklahoma	29	7,355,000	32	1,902,000	33	720,000
Oregon	30	6,084,000	23	3,038,000	24	1,416,000
Arizona	31	6,014,000	38	1,187,000	38	425,000
Utah	32	5,656,000	36	1,330,000	36	446,000

TABLE 3—Continued

State	Rank 1973	Volumes 1973	Rank 1955	Volumes 1955	Rank 1935	Volumes 1935
West Virginia	33	4,869,000	37	1,207,000	39	420,000
Rhode Island	34	4,182,000	27	2,469,000	21	1,640,000
Mississippi	35	4,176,000	42	848,000	43	267,000
Arkansas	36	4,033,000	39	1,153,000	45	236,000
South Carolina	37	3,915,000	35	1,483,000	34	594,000
Maine	38	3,622,000	33	1,706,000	26	1,046,000
New Hampshire	39	3,553,000	34	1,693,000	28	948,000
Nebraska	40	3,311,000	31	1,931,000	29	947,000
Hawaii	41	3,050,000	40	988,000	42	297,000
Montana	42	2,726,000	42	848,000	40	376,000
Idaho	43	2,428,000	49	378,000	49	167,000
New Mexico	44	2,343,000	44	677,000	50	90,000
Vermont	45	2,215,000	41	928,000	37	440,000
Delaware	46	1,861,000	45	557,000	41	314,000
South Dakota	47	1,600,000	46	475,000	46	227,000
North Dakota	48	1,549,000	48	456,000	44	254,000
Wyoming	49	1,221,000	47	470,000	47	187,000
Nevada	50	1,132,000	50	249,000	48	175,000
Alaska	51	766,029	51	58,000		
Total		791,696,000		280,860,000		138,228,000

TABLE 4

RATE OF INCREASE OF VOLUMES IN RESEARCH LIBRARIES OF THE UNITED STATES FROM 1955 TO 1973

State	Rank 1973	Percent of Increase	State	Rank 1973	Percent of Increase
Alaska	1	1320	Montana	27	322
Idaho	2	644	Hawaii	28	310
Florida	3	540	Colorado	29	291
Georgia	4	514	Missouri	30	287
Arizona	5	507	Washington	31	286
Mississippi	6	505	Indiana	32	275
Kentucky	7	498	New Jersey	33	271
Texas	8	457	Kansas	34	270
Nevada	9	455	Michigan	35	268
Tennessee	10	450	New York	36	266
Maryland	11	438	South Carolina	37	264
Utah	12	426	Wyoming	38	260
North Carolina	13	408	Minnesota	39	245
West Virginia	14	402	Wisconsin	40	241
Oklahoma	15	387	Vermont	41	238
Virginia	16	373	Illinois	42	234
Louisiana	17	367	Ohio	43	230
Arkansas	18	350	Pennsylvania	44	224
Rhode Island	19	347	Iowa	45	220
New Mexico	20	346	Maine	46	215
Massachusetts	21	342	New Hampshire	47	210
North Dakota	22	339	Connecticut	48	205
Alabama	23	338	Oregon	49	200
South Dakota	24	337	Nebraska	50	171
California	25	336	District of Columbia	51	147
Delaware	26	334	National Average		332

of increase for each state between 1955 and 1973. Alaska and Hawaii appear in the tables for the first time, since they had not yet become states when the earlier studies were made.

The extraordinary expansion of holdings in the various states is revealed by the new figures. Except for the District of Columbia, which slipped from second to sixth position, and Connecticut, which dropped from ninth to fourteenth, the top rankings were little changed. Texas made a spectacular jump from eleventh to eighth.

On the basis of holdings by states, according to the criteria described, the nation's library resources went from 138,228,000 volumes in 1935 to 280,860,000 in 1955 to 791,696,000 in 1973, nearly tripling in the past two decades. In percentage of increase, the southern, southwestern, and northwestern states were in the lead. None of the states except Alaska held less than one million volumes.

Another approach to the matter of distribution of resources is holdings by geographic regions of the country. The number of volumes in each of the six principal regions of the United States in 1955 and in 1973 is recorded in Table 5. Though the Northeast held 39

TABLE 5

NUMBER OF VOLUMES IN RESEARCH LIBRARIES OF THE UNITED STATES BY GEOGRAPHIC AREA IN 1955 AND IN 1973

	Volumes			Volumes	
	1973	1955		1973	1955
Northeast			Southeast		
Connecticut	16,545,000	8,507,000	Alabama	7,746,000	2,292,000
Delaware	1,861,000	557,000	Arkansas	4,033,000	1,153,000
District of Columbia	38,773,000	25,357,000	Florida	13,724,000	2,553,000
Maine	3,622,000	1,706,000	Georgia	13,616,000	2,659,000
Maryland	17,086,000	3,888,000	Kentucky	11,827,000	2,379,000
Massachusetts	78,484,000	22,951,000	Louisiana	10,246,000	2,797,000
New Hampshire	3,553,000	1,693,000	Mississippi	4,176,000	828,000
New Jersey	21,875,000	8,080,000	North Carolina	15,851,000	3,882,000
New York	90,431,000	34,041,000	South Carolina	3,915,000	1,483,000
Pennsylvania	31,253,000	14,697,000	Tennessee	10,859,000	2,412,000
Rhode Island	4,182,000	2,469,000	Virginia	13,762,000	3,684,000
Vermont	2,215,000	928,000	Total	109,755,000	26,122,000
West Virginia	4,869,000	1,207,000			
Total	314,749,000	126,081,000			
Midwest			Northwest		
Illinois	40,023,000	17,089,000	Colorado	9,016,000	3,098,000
Indiana	17,928,000	6,520,000	Idaho	2,428,000	378,000
Iowa	9,037,000	4,108,000	Kansas	8,229,000	3,045,000
Michigan	24,063,000	8,988,000	Montana	2,726,000	848,000
Minnesota	13,951,000	5,700,000	Nebraska	3,311,000	1,931,000
Midwest			Northwest		
Missouri	17,879,000	6,239,000	North Dakota	1,549,000	456,000
Ohio	42,909,000	18,606,000	South Dakota	1,600,000	475,000
Wisconsin	14,935,000	6,195,000	Utah	5,656,000	1,330,000
Total	180,725,000	73,445,000	Wyoming	1,221,000	470,000
			Total	35,736,000	12,031,000
Southwest			Far West		
Arizona	6,014,000	1,187,000	California	80,638,000	23,951,000
New Mexico	2,343,000	677,000	Nevada	1,132,000	249,000
Oklahoma	7,355,000	1,902,000	Oregon	6,084,000	3,038,000
Texas	30,733,000	6,716,000	Washington	12,615,000	4,415,000
Total	46,445,000	10,482,000	Total	100,469,000	31,652,000

percent of the nation's total library resources in 1973, its overwhelming lead, which Wilson noted some thirty-five years ago, has declined in terms of the other regions. Of particular note is the rapid rise of the Southeast, Southwest, and Far West.

The reasons for what may rightly be described as an explosion of library collections in all the American states are doubtless complex. Among the factors that may be cited are the establishment of hundreds of new institutions of higher education, millions of additional students in colleges and universities across the land, increased book budgets in all types of libraries, federal aid to libraries, extensive new foreign acquisition programs, and, finally, a steadily expanding rate of publication of books and journals, to which libraries have responded by stepped-up acquisition activities.

References

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CHRISTIAN M. BOISSONNAS

Employee Suggestions: Alternative Course of Action for Libraries

Libraries willing to deal formally with employee suggestions are faced with several options. This paper examines these options and discusses in detail the pros and cons of formal suggestion systems. While they seem like the most realistic way of dealing with the problem, they have great potential disadvantages, among which are high cost, high mortality rate, and low participation rate.

SOME LIBRARIANS, ESPECIALLY THOSE OF JUNIOR RANKS in large institutions, express feelings of frustration because they believe that their suggestions are not given a fair hearing by their supervisors. This paper examines the alternative courses of action which are available to a library willing to deal with this problem.

How to deal with employee suggestions is a popular topic in the personnel management literature. The traditional approach has been to develop a suggestion system. Over sixty of these systems, as well as a number of general articles, were examined for this study, and not one has indicated that a suggestion system has been—or should be—instituted solely to alleviate a morale problem. Although the objectives mentioned most frequently were improvement in production methods and employee relations, elevation of employee morale was consistently presented as a secondary goal.[1]

An unfortunate problem with these studies is that, despite their quantity, most distinctly lack quality. In fact, only four could be considered scholarly. Two of the four were conducted in Sweden by Ekvall.[2] He attempted to determine the psychological components of suggestors in a manufacturing industry which has few characteristics in common with a library. In addition, because of cultural differences, it is questionable whether Ekvall's findings could be applied in an American setting.

The third study, carried out in Great Britain by Gorfin, is subject to the same reservation.[3] He concluded that a suggestion system could be both an economic transaction or a contribution to morale depending on who was looking at it, and that for a system to be successful, management had to determine beforehand the type of participation it was seeking and then set up a reward system which would meet the employees' expectations. The fourth study, by Hardin, identified the characteristics of participants in the suggestion plan of a medium-sized casualty insurance company in the United States.[4]

All four studies dealt with suggestors within the framework of formal systems. No research dealing with employee suggestions in general could be found. Strauss and Sayles mention consultative committees to improve communications between management and the lower levels of the organization as

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an alternative to a suggestion system.[5] Employees and supervisors participate by electing representatives who meet with management to discuss problems, suggestions, or complaints raised by their constituents. A collective bargaining relationship is an example of a variant of the consultative committee model.

Because of the possibility that collective bargaining may someday become a reality at many universities, the creation of such a committee cannot be supported or encouraged without risking an unfair labor practice charge. If proved, it would require at the very least a permanent prohibition against dealing with such committees. While strictly speaking they are not true suggestion systems, consultative committees do provide a formal means of handling suggestions. In addition to the potential legal problem, Strauss and Sayles find that their effectiveness may be decreased in the following ways: by lack of communication between the committee members and the rank and file; by impairing the morale of middle-level managers who are bypassed; by operating in a hostile labor-management relations environment; and finally by failing to provide incentives for individuals to submit suggestions.

The problem of employee suggestions is essentially one of communication. One way to deal with it is to make a special effort to train managers and supervisors to encourage their staff to make suggestions and to instruct them on how to deal with those suggestions properly once they are submitted. This approach, which places the responsibility for eliciting suggestions clearly on the supervisor, is preferable to any other since it minimizes the need for interference from the top administrative officers in departmental affairs. Unfortunately, unless the supervisors possess uniformly high managerial qualities and recognize the need to deal with employee suggestions very seriously and carefully, situations will arise in which employees feel that they are not being given a fair hearing. In any large organization, it is unrealistic to assume that this would not happen, no matter how well trained the supervisors were.

The only realistic alternative to training supervisors to deal with suggestions seems to be a formal suggestion system. The volume of literature devoted to this subject is understandable in light of the statistics published annually by the National Association of Suggestion Systems. The 1969 *Annual Statistical Report* includes the following data: In 229 member companies, roughly three million suggestions were submitted through formal systems, and 43 million dollars were paid in awards. These companies include over 7.5 million eligible workers out of a total labor force of over 8.5 million.[6] While not everyone agrees that suggestion systems are inherently good, the magnitude of these figures makes it impossible to reject them outright. If that many employees are covered and that much money is paid in awards annually, these systems must be worth investigating.

There are probably as many different suggestion plans as there are organizations using them. They vary with respect to details such as who should be covered, how large the awards should be, who should review suggestions, and so on. There is, however, a basic model after which most plans are patterned: Eligible employees who wish to submit suggestions obtain forms at various locations in their company, fill them out, and deposit them in the nearest suggestion box or send them to the secretary of the suggestion committee. Supervisors usually are not eligible for awards under a suggestion plan since coming up with new ideas is part of their job. Managers and executives are almost always ineligible. Suggestions are reviewed which may result in an economic saving in some operation, higher morale, better working conditions, better service, reduction in cost, or improvement in safe-

ty. They are reviewed by a suggestion committee whose composition and name vary from company to company. Most often it includes only managers and executives and, on occasion, supervisors. The committee evaluates the suggestions and determines the award which should be given. Large companies frequently employ an investigator to perform these functions.

Awards are primarily financial. In fact, no example of a company which did not offer financial awards could be found. They differ mostly in the way in which awards are presented: by the winner's supervisor or the plant superintendent; privately or in formal ceremonies. In most plants, awards for suggestions resulting in measurable savings are computed as a percentage of the first year's saving, minus the cost of implementing the suggestion. This percentage is commonly 10 percent, but goes as high as 25 percent. Many suggestions do not result in measurable financial savings and are usually rewarded according to a fixed schedule, with the amount of the award varying with the importance of the suggestion.

A suggestion system such as the one described above seems well suited to help solve internal communication problems. Employees make suggestions and receive awards for those which are accepted. The potential availability of a reward acts as an incentive for submitting more suggestions. Yet according to Northrup, the mortality rate of such plans is very high. He estimated twenty years ago that a majority of the plans started in the previous twenty years had been abandoned.[7] No recent figures are available which show that this phenomenon is still true, but the wealth of articles on "how to design a suggestion system" seems to indicate that the secret of the perfect plan has not yet been discovered.

Suggestion plans fail for a variety of reasons. Those most commonly cited are that top management tends not to give enough support to the plan, rewards are generally too low when compared to the benefits reaped by the organization, the processing time is too long, and the plan itself is insufficiently and inconsistently promoted.[8]

Northrup suggests additional reasons which are of critical importance if the improvement of employee morale is one of the main reasons for starting the plan.[9] First, a suggestion system which is started in an atmosphere of poor personnel relations or in a company where there is no carefully thought-out personnel plan stands little chance of being successful. Second, it creates problems at the managerial level of the organization. Running it takes time, savings may be minimal, and support from supervisors hard to get. Third, by creating channels of communications which can effectively bypass supervisors, the plan may cause dissatisfaction at that level and may even encourage poor supervision.

Companies have tried ways to prevent the last point from becoming a problem. General Motors tries to keep supervisors interested in the plan by having them investigate suggestions; United Specialties gives foremen a flat 10 percent of the awards paid to suggestors from their departments; Ford has a separate plan for supervisors.[10]

Finally, one problem of suggestion plans which does not necessarily cause their failure, but which must be considered, is the low level of participation. The National Association of Suggestion Systems *Annual Statistical Report,* referred to earlier, gives a participation rate of 27 percent. Northrup in 1952 considered 25 percent participation an excellent rate.[11] While there is no evidence to suggest that there is a high correlation between morale and participation, this factor should be kept in mind before establishing a suggestion plan.

There is then no evidence to support the notion that suggestion systems are a good way to improve employee morale

and communication. Nor is there evidence that shows that they do not help. There are a great many reports which show substantial cost savings, but no one has yet found a way to quantify changes in employee morale.

From a purely economic standpoint, it seems that a successful suggestion system can be a great asset. Nationwide Mutual Insurance Company did a careful study between 1960 and 1965 of the savings effected each year as a result of its suggestion plan and arrived at the figure of $881,608 over that five-year period.[12] Westinghouse in 1957 estimated that its plan was responsible for savings of almost $1.5 million, Socony Mobil calculated that its plan brought in an 800 percent return on its investment, and in a sample of sixty-five companies the Dartnell Corporation found a savings-to-program-cost ratio varying between 2.7 and 5.1 to 1, or an average saving of $3.88 for each dollar spent.[13] In these various reports the cost of an individual suggestion was shown as varying between $25 and $50.

Given this admittedly confusing picture, what should be done? The consultative committee approach has potentially disagreeable legal repercussions and it may aggravate the communication problem rather than solve it. Upgrading the knowledge of supervisors so that they will deal more effectively with employees who submit suggestions is always desirable. The problem with that approach is that it is never completely effective, and the work put into it must be continued on a permanent basis if the improvements are to be sustained. It is unlikely that a suggestion plan developed simply to resolve a communication or morale problem would be economically justifiable.

Suggestion plans for libraries must reflect the fact that libraries are fundamentally different from businesses. While businesses are profit-oriented, libraries are user-oriented. In business, the value of a suggestion can be measured by its impact on the company profits; in libraries, the benefit is much more difficult to ascertain. The cost and benefits of monetary incentives can therefore not be readily determined. It is possible, however, that library employees could make suggestions leading to increased user satisfaction, which would justify the formation of a suggestion plan even though its economic value might be doubtful.

The structure of such a plan need not be as elaborate as that of a large corporation. It could be as simple as creating a specific place in which suggestions could be deposited, with regularly-scheduled meetings of a review committee. Awards might include recognition in the form of publication of the suggestion in the library's newsletter or announcements at an annual luncheon. Anyone whose suggestion was accepted could have that fact entered in his personnel record, which might lead him to receive preferential treatment when time came for promotion. Since it is unlikely that employees lacking initiative would be making suggestions in the first place, the possibility of promotion, in addition to recognition by co-workers and supervisors, might be a powerful enough incentive to motivate those interested in participating.

Although such a plan would be relatively informal, if its implementation were carried out with seriousness and consistency its benefits might be worthwhile for both the library and its employees.

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DUANE E. WEBSTER

The Management Review and Analysis Program: An Assisted Self-Study to Secure Constructive Change in the Management of Research Libraries

The Management Review and Analysis Program (MRAP), designed, tested, and operated by the Association of Research Libraries' Office of University Library Management Studies (OMS), is an assisted self-study strategy intended for use by large academic and research libraries. The program assists libraries in reviewing and analyzing their current management policies and practices, and provides guidelines for the application of contemporary principles of management for the improvement of library programs.

Introduction

Improving the operation of research libraries is the major current challenge for academic and research libraries. These libraries must be responsive to changes in the environment of higher education if they are to remain the focal point for the collection and exchange of information in the academic community. Changes in the nature and objectives of higher education, the technology of instruction and research, and the information needs of users present librarians with demands for different and improved organizational performance.

In dealing with frequently competing pressures and events, the managers of academic libraries need to prepare their libraries to deal with present conditions and to plan for future needs. Recent examples of new organizational and management approaches developed to fulfill these needs include those of Columbia, Cornell, UCLA, and the management research and development effort of the Association of Research Libraries.[1]

Overall Description of MRAP

This paper describes a strategy for effecting change in the management of research libraries. The Library Management Review and Analysis Program (MRAP), designed by the Association of Research Libraries' Office of University Library Management Studies (OMS), has undergone an extensive testing and development period involving nine ARL member institutions. As a result, the program has been revised

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to incorporate the experiences and perspectives of the participating libraries. The revised program is currently being applied by a group of five additional ARL libraries, and a fourth group is scheduled to begin the program in the fall of 1974.

The MRAP involves a systematic investigation of the top management functions in a research library. The investigation is coordinated by a representative study team composed of six to nine library staff members. Although the study team accomplishes some of the review and analysis, its major responsibility is to coordinate the work of nine task forces, made up of other library staff members. Over a period of seven months, the study team and task forces study approaches, policies, and procedures in the areas of planning and control, organizational development, and personnel with a view toward improving the effectiveness of the library in attaining its basic program objective—service to users.

Each library which participates receives an MRAP manual.[2] The manual serves both as an instructional aid for the study team and as a working tool for completing the analysis. Included in the manual are (1) a discussion of management principles, (2) step-by-step procedures for conducting the review and analysis, (3) a description of expected results, (4) suggestions for developing effective working groups, (5) schedules of work activity, and (6) analytical tables for use by library task forces in reviewing the several management areas. The analytical tables consist of principles of good management and related provocative questions, which can be used to focus and direct the actual analysis of current management activities in the library.

Even though the manual presents extensive discussion, it can only serve as a starting point, providing general guidelines for the library. Local requirements, opportunities, and constraints necessitate the study team's going beyond these guidelines and designing a work plan tailored to the specific needs of the library. The manual tries to anticipate problems, but successful use requires an alert, resourceful study team.

Assistance is also provided at OMS training sessions scheduled once every month during the course of the program. Six or seven sessions are planned, which bring together the OMS staff and the study team chairpersons from the participating libraries. These sessions provide assistance to the library by answering questions that occur, such as the interpretation and application of the manual, the relevance of modern management philosophy to library operation, and the preparation of the library for the succeeding phases of the program. These sessions also deal with specific issues and problems raised by the participants, such as the methodology of conducting the self-study or the management topics themselves. The primary benefits of the training sessions, however, have been the sharing of problems and the exploration of approaches to resolving these problems. The sessions do not provide solutions for the study team, only options. The chairperson and study team must resolve their problems in light of local requirements. Our experience with these sessions demonstrates that perspectives and ideas can be usefully shared in this fashion.

In order to secure a better understanding of the program, some discussion of how it actually works is needed. The following is based on the experience of the OMS and is intended to provide an overall perspective on the operation of the program.

Entering the Program

Deciding to participate in a critical self-analysis such as the Management Review and Analysis Program is not an

easy decision for any library. The first step for a participant is to secure library top management support and leadership for the program application. For an organization such as a research library to make fundamental changes in its management practices, this support must be purposive, active, and future-oriented.

Libraries, like other organizations, exhibit stages of growth. Our experience with MRAP as an instrument for assisting that growth illustrates that it can be employed at several different stages of organizational development. In some instances, MRAP participants have had newly appointed library directors. The key point, however, is top management's desire for continuing self-analysis and renewal. To date, the library director in each participating library has provided the impetus for joining in the MRAP.

Beyond top management support and leadership, certain incentives for participating in the program should be strong to ensure its completion. Incentives noted by past participants include significant changes in the university environment, which call for reassessment of library programs; desire to involve staff more effectively in the resolution of basic issues facing the library; interest in contributing to the management training and education of librarians; and a need to order the library's priorities in regard to operating problems. As the reasons for participation will vary from library to library, every institution must honestly examine its own incentives, to determine if they are adequate and appropriate.

The decision to participate should be made only after discussion with the university's administrative officials, whose understanding and support are essential for a truly effective program. This support is based on the expectation that completion of the MRAP will strengthen the role of the library in the university.

Equally important, however, is the fact that the decision to participate can come only if the library's staff is interested and cooperative. This program presents an opportunity for staff to influence the nature and operation of their working environment, and to gain an understanding of the challenges of managing libraries. There must be a desire on the part of the library staff to learn, to change, and to contribute; we have not found this quality to be rare. It is now commonplace for a library staff to expect that their efforts will make substantial contributions to their library's high performance. The program allows the staff to direct this attitude toward constructive action which produces visible results.

Initially, however, many staff members react to the program with several doubts: Will it fit us into a mold? Will we be manipulated to arrive at certain conclusions? Despite the program being viewed as a potential danger, we have found that all participants have applied the program differently with varying results. All have found that the general approaches recommended in the manual require local interpretation and application.

On the other hand, because some internal problems are long-existing and seem inevitable, many staff members have questioned what difference this program will make in their libraries. Our experience indicates that the program does not produce miraculous cures. What it does achieve, however, is the development of staff understanding of the range of concerns facing the library and, within a conceptual framework, it provides the mechanism for making a formal assessment of the relative importance of the issues. It also proposes short- and long-term actions to deal with problems. The program does provide the opportunity for staff to influence what issues are examined, how they are examined, and what recommendations are proposed for their solution.

The initial step following the decision to participate is the selection of a chairperson to lead the study team. Ideally, this individual should be an administrator who works well with the library director, and who is adept at working with staff in small groups. The role of this person in the program is crucial since he/she establishes leadership styles, acts as a conduit between the institution and the OMS, advises the director, and promotes team responsibility for the accomplishment of program goals.

The selection of the study team comes next and is equally important. As it is the responsibility of the study team to operate and monitor the entire analysis and to provide a synthesis of guidelines for implementation of recommendations, a small representative group of the library's best people is needed. The manual suggests that the team be six to nine members, and that it represent many perspectives to ensure credibility with the staff. The following roles are frequently represented:

- a library administrator, other than the director
- a librarian without administrative responsibilities
- a library user, possibly a faculty member with management expertise
- a support staff member
- a library staff member from outside the main library

The manual also suggests that the procedures for selection should be carefully considered and explained to the staff. Selection criteria should be established that will ensure a representative team of competent, committed staff determined to achieve improved library performance.

Conducting the Review and Analysis

Once support for the MRAP is secured, the study team selected, its chairperson designated, and university administration interest aroused, the library initiates its review and analysis. There are seven phases in the MRAP; each lasts approximately one month. Within the seven phases, three distinct groupings of work can be identified. (See Figure 1.) Phases I to III are concerned with organizational preparation, overall review of library needs and goals, and team building; Phases IV, V, and VI involve analyzing specific management functions with the aid of task forces; and Phase VII is the integration of the study team and task force results, the design of a plan for implementation, and preparation of a draft report of the program for the library director.

Organizational Preparation

A major activity of the first three phases is the preparation of the organization for the study. This process begins with staff discussions of what, how, and why such a project is envisioned, the examination of MRAP working documents, and a discussion of the expectations of all involved parties.

Initial data-gathering efforts are also begun. The study team examines major trends in higher education, identifies university responses to these trends, and assesses possible implications for the library. The team also evaluates present mechanisms employed by the library to keep abreast of important technological, educational, and professional trends that may reasonably be expected to have an influence on the library over the next several years. These may be factors outside the control of the library; for example, the rapidly rising costs of periodicals, or the changing interpretation of copyright. Although beyond staff control, these factors will affect operating and budgeting decisions, and must be studied and understood by the library staff and the director.

Major data-gathering efforts accomplished in the early stages of the program include a staff-wide inventory of

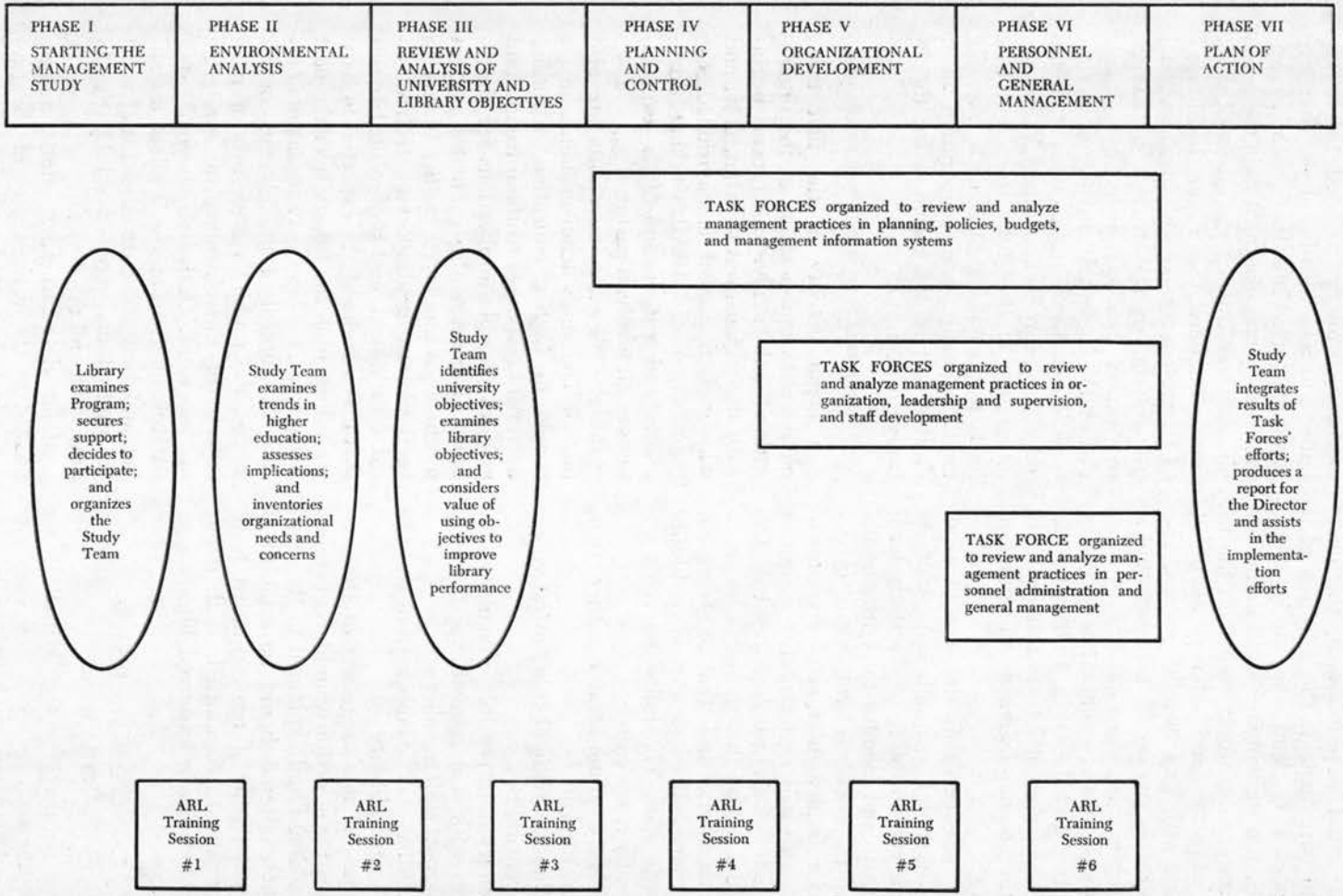

Fig. 1

Management Review and Analysis Program

needs and concerns, and the identification of events or developments that are currently influencing library programs and operations. The resulting list of needs, concerns, and developments are categorized where possible within the nine management topics to be examined. These listings are distributed to the staff and are used as a basis for the study team's charge to the respective task forces.

Another major task of the first three phases is an examination and codification of broad, continuing library objectives. An example of this type of objective might be "to provide assistance to users in effectively utilizing library resources." These general statements—maybe eight or nine—help to focus on the fundamental programs of the library and provide direction to the study team as it completes the remainder of the review and analysis. In addition, the study team goes beyond a consideration of these broad overall objectives and examines the formulation and use of more specific goal statements for units within the library organization.

Development of an effective, work-oriented study team is also part of the initial efforts in the program. The MRAP devotes considerable time to defining the ingredients for team building. Assistance is provided in helping the individual study team determine those basic activities required for effective internal group operation and intra-group relationships. For example, this assistance considers the nature of working in groups; means of assessing team performance; strategies of communicating with the several elements of the staff; and potential problems of group processes such as personality differences, resistance to criticism, unwillingness to share information, and conflict resolution. Experience with the MRAP process results in the study team's developing a confidence in their capability to perform a review and analysis.

At the conclusion of Phase III, the midpoint of the study, tangible results include a broad statement of library mission and objectives, a team of highly motivated staff engaged in a goal-oriented self-study process, and statements of short- and long-range concerns of the library departments. These can be used for discussion purposes as the program proceeds. The first three phases are quite different from subsequent work; they are aimed at establishing the scope and credibility of the study, developing team skills and understanding, and identifying the major areas of concern.

Analytical Phases

Phase IV begins the second half of the program, which is comprised of a series of three analytical phases during which there is an investigation of specific functions of library management. The study team at this point assumes the role of coordinator, establishing and directing the work of the nine task forces. Each task force is chaired by a member of the study team, and includes four or five library staff members selected on the basis of interest, skills, and willingness to work on the project. The four task forces in Phase IV study library management practices relating to planning, budgeting, policy formulation, and management information systems.

Each task force has four major responsibilities. First, the task force determines the scope of the management area under review and gathers the necessary data. Data gathering varies by topic, but generally includes securing relevant documents, interviewing staff, conducting surveys, and simply observing current activities. The second task is to describe objectively the current practices of the library in a management area. For example, the policy task force is expected to describe what major policies exist, how they are formulated, and

how they are communicated and applied.

The third task is to analyze and evaluate current management practice. It is here that the analytical tables mentioned earlier are employed. In the area of library policies, for example, the analytical tables present management principles that should be considered by the task force, i.e., "Policies should be consistent with library objectives and serve as guidelines for decision making and action." The tables then suggest an array of questions that can be used in evaluating the success of the library in approaching the principle, e.g., are policies developed on the basis of stated objectives or in response to problems? What categories of decisions are made without policy guidelines? Do established policies permit exercise of individual judgment? The intent of this task is to complete an overall assessment of how well management principles are currently being applied to library operations. The evaluation should produce some sense of the strengths and weaknesses of existing practices. Although the primary intent of the program is to review and to analyze current management practices, suggestions for further intensive study and specific actions will be recommended. These results are documented and presented in a written task force report (the fourth responsibility) which is reviewed by the study team, revised if necessary, and used by the study team in the preparation of its final report. Throughout Phase IV, the efforts of the four task forces are monitored by the study team, which provides guidance and coordination.

Phase V utilizes the same task force strategy in examining the areas of library organization, leadership and supervision, and staff development. Whereas Phase IV examined the systems that operate to guide and monitor library activities, Phase V examines how the library staff is organized, motivated, and directed in these activities. Issues of organizational structure, purpose and effect of hierarchy, the negative influences of bureaucracy, and delineation of effective organizational units are covered. In completing this phase, some libraries have exercised the option of employing the Likert Profile of Organizational Characteristics. This questionnaire is used to measure scientifically staff perceptions concerning issues such as decision making, goal setting, communication, supervisor/subordinate relationships, and working climate. Although the Likert Profile has proven useful in providing some information on staff perceptions, the difficulties in using the survey results have prompted the OMS to design alternative methods for securing this information.

Phase VI follows naturally from the previous two phases and deals with personnel and general management. "Personnel" involves the recruitment, selection, placement, review, promotion, compensation, and termination of staff. "General management" refers to the ways in which library staff members are directed and work together to achieve the library's objectives; it refers to the integration and coordination of efforts and to the communication system that operates up, down, and across the organization.

Devising a Plan of Action

At the conclusion of these analytical phases, a substantially different series of challenges faces the study team. The results of the review and analysis have to be carefully examined with a view toward developing an on-going change strategy and recommendations for new and revised management policies and practices. The seventh and final phase encompasses the revision and integration of task force analyses into a draft of the *Management Analysis Report* (see Figure 2 for illustrative outline of these reports), which will be used for

Fig. 2

Suggested Outline for Management Analysis Report

TITLE

TABLE OF CONTENTS

DIRECTOR'S PREFACE

INTRODUCTION AND SUMMARY

- –Nature and methodology of self-study
- –Major areas of concern for future consideration
- –Summary of key recommendations

CHAPTER ONE: DESCRIPTION OF THE LIBRARY IN ITS INSTITUTIONAL SETTING

- –History of the development of the university and the library
- –The university today
- –The library today

CHAPTER TWO: THE MISSION, OBJECTIVES AND GOALS OF THE LIBRARY

- –The relationship of library to university objectives
- –The objectives of the library
- –Performance goals of the library

CHAPTER THREE: THE LIBRARY'S PLANNING EFFORT

- –Description of present planning
- –Analysis and evaluation of planning practices
- –Short- and long-term recommendations

CHAPTER FOUR: THE FORMULATION AND USE OF POLICIES

- –Description of the present situation
- –Analysis and evaluation
- –Short- and long-term recommendations

CHAPTER FIVE: LIBRARY BUDGETING SYSTEMS

- –Description of the present system
- –Analysis and evaluation
- –Short- and long-term recommendations

CHAPTER SIX: THE LIBRARY'S MANAGEMENT INFORMATION SYSTEMS

- –Description of the present situation
- –Analysis and evaluation
- –Short- and long-term recommendations

CHAPTER SEVEN: LIBRARY ORGANIZATION PRACTICES

- –Description of the present organization patterns
- –Analysis and evaluation
- –Recommendations for the short and long term

CHAPTER EIGHT: THE LEADERSHIP AND SUPERVISION PRACTICES OF THE LIBRARY

- –Description of present supervisory practices
- –Analysis and evaluation
- –Recommendations for the short and long term

CHAPTER NINE: THE LIBRARY'S PROGRAM FOR STAFF DEVELOPMENT

- –Description of present training and development practices
- –Analysis and evaluation
- –Recommendations for the short and long term

Fig. 2—Continued

CHAPTER TEN: PERSONNEL ADMINISTRATION IN THE LIBRARY
—Description of present personnel practices
—Analysis and evaluation
—Recommendations for the short and long term

CHAPTER ELEVEN: THE LIBRARY'S PROGRAM FOR GENERAL MANAGEMENT
—Description of present general management practices
—Analysis and evaluation
—Recommendations for the short and long term

CHAPTER TWELVE: CONCLUSIONS AND PLAN OF ACTION
—A strategy for implementing recommendations
—A mechanism to assure continued review

APPENDICES
—Material necessary for describing project methodology
—Descriptive documentation

discussion and review purposes with the staff and library administration. This report is the primary tool for communicating the results and the recommendations of this effort. Ensuring an effective report is a difficult but crucial challenge for every study team. During the several phases, the building blocks for this report have been developed. The study team, in this report, works to secure a focus of issues and clarity of emphasis and intent. This often is achieved by identifying broad themes as a means of integrating the variety of recommendations, securing understanding of the priority concerns facing the library, and providing a framework for implementation over subsequent months. These themes provide a focus for specific recommendations of the task forces. Some examples include the role of the library in the university, development and utilization of human resources, and clarification and formalization of the library's decision-making process. Other themes have reflected on the need for changes relating to staff participation, functional reorganization, communication processes, or supervisory training.

In the final phase, the study team considers alternative implementation strategies and constructs a broad recommended plan of action. Although implementation is guided by the library administration, the study team contributes advice for scheduling of actions, assignment of specific responsibilities, creating a review process, and establishment of a monitoring and coordinating agency. Most libraries, as they move toward this culmination of MRAP, engage in extensive staff discussions of the report.

Results Sought by Program Participants

In addition to the *Management Analysis Report,* a number of supporting products result from the effort. There is a statement of broad, overall objectives for the library; a description of management practices in areas such as staff development, planning, and personnel; and inventories of items such as policies in force, existing management forms, and current reporting procedures.

Although these specific products are important, staff development of a posture for self-appraisal may well be the key benefit. Getting the staff to say, "What is it that we are doing right/wrong and how can we improve our-

selves?" is a valuable accomplishment if it is done in an open, supportive environment.

In addition to being a review mechanism, the program instructs library staffs about the nature of library management, and the constraints which their administrators face. The program also results in valuable experience in the analytical group problem-solving process, which can be employed to engage new problems and opportunities.

Realistically defining outcomes of the program is dependent upon the immediate situation and needs of the library. However, all participants should experience the following generalized outcomes: stimulation of the exchange of ideas; an increased flow of communication; increased staff awareness and participation; and finally, the creation of an environment for change. In many library settings, a small group of consultants might quickly come up with good answers to problems, but those answers are of limited value if the staff does not think they are right.

Implications for the Library

When considering outcomes, one must also consider the implications of engaging in such a dynamic and intensive effort. The program will influence the management decision-making processes of the library, fully leading toward an open, candid, and constructive organization. Furthermore, there will be an increased awareness and interest by the staff in library operations. They will know, want, and expect more. This informed and active staff becomes a positive asset if the program is to secure important changes in relationships, the exercise of power, the management of programs, and the process of decision making. Conversely, engaging in such a program can be a liability if the study is completed and nothing comes out of it. In fact, the study should never be "completed," but should evolve into a viable on-going process of self-analysis and problem solving.

During the operation of MRAP, we have seen considerable enthusiasm for the program both in terms of concept and results. It is useful, however, to note some of the limitations of this approach. First, it is not a panacea for every institutional problem. Much of the program's success depends on how effective a library is in interpreting the program and applying it to local needs. Second, as with any "packaged" approach, the MRAP is a general tool. It is not designed to meet the specific planning needs of a library. It is not an extensive organizational or staffing analysis. It is a guide that an institution can use in developing its own analyses. In addition, there are significant, although mostly indirect, cost requirements. During the testing efforts, there has been no fee for participating in the program, but the participants have incurred some travel costs and clerical support costs. However, the most important expenditure for the libraries has been staff time. On the basis of time records kept by participants in the second application of MRAP, staff time invested in the program averaged 200 man-hours per month.

Given its limitations, this program represents a concrete and action-oriented approach specifically designed for academic and research libraries. Libraries that have completed the program are convinced of its value and consider the results worth the investment.[3]

The Program's Value System

In describing the MRAP, this examination has focused on the distinctive nature of the self-study methodology, the group processes of problem identification and solution, and the nine management topics under review. Perhaps the most important element of the MRAP is the set of values and philosophy it advocates. Given their operation-

al complexity and recent developments in higher education, research libraries need to explore methods to secure constructive change in their management and organization. The Management Review and Analysis Program is a tool for this purpose. To do this, the program advances a philosophy that suggests:

- there is value in having institutions address their management concerns in their own way, assisted by a conceptual framework and a directed methodology;
- there is a need for libraries to develop analytic and management skills within their own staff;
- by developing the management capability of the staff, there will be an improved environment for professional contributions in the future;
- libraries will profit by assessing their strengths and weaknesses;
- improvement of an individual library's management practices can be facilitated through a cooperative venture with other libraries, exchanging experience and perspectives for mutual benefit; and
- there is a danger of resting on past accomplishments; thus, this program is intended to lead to continuing evaluation and assessment.

In addition to this broad set of values, the analytical tables present a series of management principles which are offered as guides to good library administrative practice. For example, the personnel section lists the following principles:

- The library personnel administrative functions should be organized to facilitate their accomplishment.
- The library personnel program should be administered with clearly stated policies and procedures which are understood and accepted by the staff.
- Positions should be described, classified, and compensated for according to job content, required qualifications, and nature of responsibility.
- There should be a formal, periodic review of the performance of each staff member.
- Staff relations should be an integral part of the library's personnel program.
- Available skills and capabilities among the staff should be identified and efficiently utilized.

By dealing with these management values, the study team can examine the explicit philosophy of the program and evaluate its application to their operation. They can then accept, reject, or apply as they see fit; the key event is the review and analysis of their operation within this context. By making the program's value system explicit, the OMS attempts to reduce the potential for an incorrect application of the program.

Conclusion

The development effort required for the preparation of the Management Review and Analysis Program has been a major focus of the current activities of the OMS. Although the program is unique, the OMS has drawn extensively on the experience and materials generated from the Columbia study as well as from various other projects which the OMS has engaged in over the past three years.

Certainly, a key factor in the successful evolvement of the program was the pilot test and development effort accomplished at Purdue, Iowa State, and Tennessee, and the subsequent test of a revised program at six libraries (University of Washington, Rutgers, Boston University, Case Western Reserve, University of Connecticut, and the Smithsonian). These institutions volunteered for the difficult task of applying a set of study guidelines to their own requirements while simultaneously contributing advice for the improvement of the program.

A third group began in the fall of 1973 (Washington State University; Library of Congress, Division of the Blind and Physically Handicapped; University of Rochester; University of Maryland; and University of Missouri). Following this group, we expect to operate the training sessions annually for ARL members. Also under consideration is a proposal to adapt the program to the needs of smaller institutions; this would aim at creating a program to service the needs of four-year universities and colleges.

The OMS, through this program, is trying to help individual libraries assess and develop their management capability. The program does not advocate a particular style of management or present a set of universal solutions. Instead, it provides tools to the library so that it can better understand its own management approach and begin to build for future needs.

OMS experience suggests that there are certain conditions that facilitate constructive change. First, the motives for wanting change must be stated honestly and be generally understood and accepted by all involved. Second, the method used must be appropriate to the stage of development and special needs of the library. The third ingredient is the commitment to act. Change can and will happen, but, in order for libraries to influence this stream of events, intervention is required. The MRAP is a tool for those determined to act.

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BEVERLY P. LYNCH

The Academic Library and Its Environment*

The organizational environment of the library deserves greater attention by librarians and library administrators concerned with internal changes taking place within their organizations. Few systematic approaches to the impact of the environment upon the functioning of the individual library have been offered. This paper examines four approaches to assessing library/environmental impacts and identifies those areas for which an analytical model could be developed and applied by librarians and administrators.

THE PRACTICAL ART OF LIBRARY ORGANIZATION AND MANAGEMENT is far ahead of its corresponding theory. The literature of librarianship reflects a preoccupation with the search for the one best way to organize the library, whereas practice encompasses a variety of organizational and managerial styles and configurations. Librarians know that an organizational structure suitable for a library of a liberal arts college in a rural setting probably is inappropriate for the library of a major urban college. They know that the management style and structure of the local college library differs from that of the local public library, although both libraries are in the same town. The thoughtful library manager recognizes individual differences in each library and structures his library accordingly.

Although many library schools, associations, and much library literature consider library problems by the type of library in which those problems occur, there has been no exploration of the differences arising from the environmental settings of libraries. It has been assumed that libraries are affected by their varying environments and that factors external to the library influence its internal operations. Although it has been recognized that external factors vary according to whether the library is a college, a public, or a school library, little is known about the impact of the environment upon the library.

Some of the classics in librarianship describe the library in its environmental context, but the more recent investigations of the library as an organization focus on intraorganizational phenomena.[1] Marchant studies the characteristics of the library's decision-making process and the impact of that process upon staff satisfaction.[2] Spence correlates measures of library size with various dimensions of library structure.[3] Lynch measures the variability in the work of library departments before making predictions as to variations in the library's structure.[4] Each of these studies examines only internal characteristics of the library.

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* A revision of a paper presented to the Midwest Academic Librarians Conference, Luther College, Decorah, Iowa, May 19, 1973.

This preoccupation with internal factors has led to the relative neglect of interorganizational relationships within librarianship. Libraries "are embedded in an environment of other organizations as well as in a complex of norms, values, and collectivities of the society at large."[5] Librarians do recognize that the library is dependent to some degree upon its environment. Environmental factors within the university and the society at large have been identified as having an influence upon the library's structure.[6]

In the provocative article "The Changing Role of Directors of University Libraries," Arthur McAnally and Robert Downs describe characteristics of the university and society at large that affect the university library.[7] They suggest that the recent turnover in university library directors occurred in response to the changing environment in which the university library is embedded: the library could not cope with the enormous expansion that took place within the university during the 1960s; the role of the library was reduced and its power diminished as the management patterns within the university changed; the expansion and fragmentation of knowledge influenced university curricula and design, and these patterns directly influenced the university library in terms of staffing patterns, responsibilities, decision making, and so forth.

The library can be viewed as an open system, affected by contingencies placed upon it by its environment. An open system is one in which some kind of exchange takes place between the system and its environment. The general perspective of the open system is that the organization obtains its resources and energy from its environment, transforms these resources into products, and exports the finished products or services back into the environment.[8] With the open system, the organization is capable of bringing in resources to modify its own internal workflows, structures, and procedures.

If the library is studied as a system interacting with its environment and bringing resources (human, financial, and material) into the library, the dynamic aspects of the library's internal organization, design, and structure can be better understood. Because the environment can influence internal workflows, structures, and procedures, a study of the library and its environment can help identify changing aspects of library organization and varying organizational patterns as well as lead to development of predictive models for library organization.

Approaches to the Library's Environment

Several approaches can be used to examine the library's environment. The following four areas are covered in this study:

(1) The nature of the environment itself.
(2) The relationships among the libraries within a set of organizations.
(3) The characteristics of the exchanges that take place among libraries.
(4) The impact that the environment has upon the library's internal structures and operations.

The Nature of the Environment Itself

A consideration of the nature of the environment itself is a contextual approach that describes the organizational effects produced by larger social processes surrounding the organization. Although the Public Library Inquiry and the more recent study conducted by Allie Beth Martin explore certain societal-library relationships, and although several societal trends that affect the university library directly or indirectly have been identified, few library studies have

explored the channels and types of influence exerted by the external environment upon interorganizational relations.[9]

There is no systematic, empirical evidence to confirm or deny the hypothesis that organizational change is increasingly externally induced.[10] Librarians generally assume that organizational change in the library is internally generated. It is frequently said that if the managerial style of the library director would change, or if the staff had broader participation in the decision making, the library's performance would change. Environmental factors leading to less participation in decision making have not been considered, nor have factors that could reduce the decision-making autonomy of the library itself been identified.

A second hypothesis derives from the contextual nature of the organizational environment: "the organization's ability to adapt is a function of its ability to learn and to perform according to changing environmental contingencies."[11] Most library literature calling for library application of computer technology or acquisition of current audiovisual materials supports the notion that the library must adapt or it will be replaced by different organizations.

It may be impossible to determine whether organizational change is internally or externally generated. An internal change may have external antecedents, and external events may have been initiated by internal sources. The point is that organizational change is influenced not only by internal factors. Librarians should be sensitive to these relationships.

Relationships among Organizations within a Set of Organizations

Another approach to the study of libraries and their environments is to examine the interactions of organizations within a network of organizations. This approach uses one organization as a referent and analyzes that organization's relationships with elements in its organizational set.[12]

There are several aspects of the organizational set that can be used in the analysis of the interactions.

1. Those organizations in the set upon which the focal organization depends can be identified and their interactions characterized. The environment of any organization consists of a set of input organizations and a set of output organizations. The input organizations are those upon which the organization depends for its resources. In the library environment, input organizations would include such organizations as publishers, whose materials are inputs into the library's resources; library schools, whose students are inputs into the library's staff; and state libraries, whose funds may partially support the library. The output organizations are those for whom the organization produces a product or service. Within the library's environment output organizations would include other libraries, industrial firms, and other organizations. (As this analysis is an organizational one, the individual client is excluded.)

2. The reliance on input from various organizational resources can be assessed. An organization may depend upon few or many input sources. Whether the concentration of library input resources is high or low probably affects the structure and functioning of the library. Use of a single jobber, hiring students from the same library school, receiving monies from relatively few sources will have some impact upon the library.

3. Certain organizations within the same network are used by the focal organization for reference purposes. In addition to input and output sets, the library environment also includes a set of comparative reference organizations.

These organizations are used by the library as a standard of comparison in evaluating its own performance. A set of normative reference organizations is also included in the library environment in order to incorporate the values and goals of this set into the focal organization.

Comparative reference groups and normative reference groups of most academic libraries can be specifically identified. For example, the comparative reference group of the library of the University of Wisconsin probably contains the other Big Ten university libraries. Its normative reference group probably includes the Social Science Data and Program Library Service of the University of Wisconsin, which houses the collection of machine-readable data files in the social sciences, and the Bureau of Audio-Visual Instruction, which services all films used in the university.

4. A fourth dimension of the organization set is its size. Although the size of the organization set is to be distinguished from the size of the focal organization, it is likely that the two are correlated; the larger the library, the larger the set of organizations with which it interacts. Although the size of the library does influence many internal characteristics, little attention has been paid to the size of the organization set interacting with the library. It is likely that the library's internal structure and processes are significantly influenced by the number of organizations with which the library interacts.

An analysis of the organization sets for various types of libraries may provide new insights into understanding variations in internal structures and patterns of decision making. Such analyses could lead to new categories of library problems and to an identification of unrecognized organization sets. By comparing organization sets with the library as a focal point with organization sets of economic, political, educational, or other organizations, the structural arrangements for other types of organizations might be found inappropriate for academic libraries.

Characteristics of Exchanges among Organizations

Organizational exchange is defined "as any voluntary activity between two organizations which has consequences, actual or anticipated, for the realization of the [organization's] respective goals or objectives."[13] Analysis of organizational exchange considers the content of the exchange itself and the organizational forces acting in the exchange. The analysis might examine the degree to which the exchange is formalized or given official sanction by the participating organization; the extent to which a coordinating mechanism has been established to operate the exchange; the degree of intensity or involvement demanded of the interacting organizations (the intensity can be measured by the size of the invested resources—staff activity, money, equipment, services—and by the frequency of interaction); and the extent of reciprocity, a critical dimension in the assessment of the relationships among autonomous organizations.

No doubt most librarians occasionally have asked a friend in another library to copy an article, answer a question, or help a patron. These activities can be described as informal exchanges between libraries. The librarian, as an agent of his library, in combination with others in his library doing the same thing, develops a system of informal exchange. This activity is quite different from a formal exchange arrangement sanctioned by the library to provide interlibrary loan, reference service, and other services. The new system of interlibrary loan in Wisconsin, WILS (Wisconsin Interlibrary Loan System), provides a coordinating mechanism different from the loan system previously op-

erating in Wisconsin. Although there is no empirical evidence to describe the influence of the WILS system upon the individual libraries subscribing to it, many librarians working in those libraries are able to compare the two systems and identify differences in the characteristics of the exchange and in organizational patterns required to operate the exchange.

Organizations desiring to maintain autonomy might understandably show reluctance for exchanges where sacrifices exceed rewards. If library A enters into an exchange relationship with library B, A may assume that B will make demands on it. One of the norms of reciprocity implies that the exchange should be mutually beneficial and roughly equivalent.[14] The voluntary system of interlibrary loan, an example of a library exchange, was developed so that libraries would share resources in order to achieve the common goal of service to readers. If reciprocity is to occur, the needs of both participating libraries must be fulfilled by the exchange. In most cases of interlibrary loan, however, the loans are beneficial only to the receiving library; the general professional goal of service, which previously sustained the voluntary interlibrary loan system, now appears to be inadequate.

Two additional factors inhibit the sharing of library resources: money has not been widely used to facilitate the flow of resources, and each autonomous library is accountable to its own major source of legitimacy (which is usually also its source of direct financial support) and is evaluated in terms of specific kinds of services rendered to selected users. As more money is acquired for circulation and as library autonomy decreases, library cooperation may increase.

Analysis of exchange in terms of these organizational characteristics should lead to the development of models for library exchange, which could be used to identify constraints that may be imposed upon certain types of library exchange.

The Impact of the Environment upon Intraorganizational Properties

The impact of the environment upon internal organizational design may provide the most immediate concern to librarians interested in the influence environmental factors might have upon library functions.

It has been suggested that complex, heterogeneous, and unstable environments impose more constraints and contingencies upon the organization and create greater decision-making uncertainty than environments that are simple, homogeneous, and stable.[15] In a study of industrial firms, those departments with more uncertain environments relied less on formal rules and procedures, had fewer reviews of job performance, and were generally less formal than those departments in organizations with more certain environments.[16] In a study of health and welfare agencies, those organizations that had more formal exchanges with other organizations reported more decentralized decision-making structures, were more innovative, and provided more formal mechanisms of communication.[17]

Not much is known about the impact of the environment upon the library's internal structure. When the influence of the environment is studied in a systematic manner, the many complexities of the library as an organization will be better understood.

Organizational Boundaries and the Role of the Boundary Spanner

The study of the library in its environmental context is not an easy task. Before any investigation is undertaken of library–environment relationships,

the boundaries of the library must be identified. Organizational boundaries do vary. Whereas one library may include a catalog department, another may use cataloging data provided by an outside processing center. One library may operate its own bindery, most will not.

An organization tends to expand its boundaries in order to reduce or eliminate major constraints and contingencies imposed upon it. For example, the single, statewide library network strives to include all libraries within its boundaries. If the state's major university library were not included, the network would be unable to control the cooperation of that library. A constraint would be placed upon the voluntary network system because the university library could reduce or remove its participation at any time. Such a constraint is eliminated by including the university library formally within the boundaries of the network.

The open-system approach to organizational studies assumes that the elements composing the organization can be further distinguished as to those elements within the organization and those elements outside the organization. Such a separation, however, is sometimes difficult and problematic. Some elements are engaged in transactions between the organization and its environment and hence are in both systems. Within the academic library, for example, the faculty library committee may be inside or outside the boundaries of the library. The committee members form a part of another system, the faculty—a major component of the academic library's environment.

In the context of these two systems, library and faculty, the faculty library committee serves as an interacting link. An analysis of the interaction provided by the faculty library committee or other such "boundary-spanning" units can indicate the amount of information flowing across the library's boundaries. Furthermore, the amount of interaction taking place between the systems may have great impact upon the library and the rate of change occurring within it.[18]

The importance of organizational roles or job functions that span the boundaries of the library is relatively neglected by the subject literature. Boundary-spanning roles are defined "as those roles which link the focal organization with other organizations or social systems and are directly relevant for the goal attainment of the focal organization."[19] The qualification of goal attainment is crucial, for without it most people working in the library could be defined as boundary spanners. Because the library's boundary-spanning roles are limited to those between the library and the elements in its task environment, it becomes necessary to define the boundary itself before the boundary spanners are identified and characterized.[20]

Summary

Librarians know that the organizational environment restricts what the library can do and influences individual characteristics of libraries. Little systematic investigation has been undertaken of library environments and the impact of those environments upon the individual library.

Four approaches to the study of library environments were outlined in this paper: identification of external environmental factors that may lead to some internal change within the library; measurement of environmental impact upon internal structural arrangements in libraries; investigation of relationships that exist between the library and other organizations with which it must deal; and analysis of the characteristics of exchanges that occur between the library and other organizations. Organizational boundaries and the role of the "boundary spanner" are two other important areas of study.

Such investigations will broaden our understanding of constraints upon the library and will enable us to classify library environments and to develop analytical models that will provide the bases for assessing library/environmental relationships.

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Letters

To the Editor:

Due to an editorial error, one sentence in our article, "Reference-Bibliographers in the College Library" (*CRL*, Jan. 1974), did not appear as originally written. The last sentence on p. 31, column 1 should have read: "Because faculty-dominated selection is often sporadic and lacking in sustained quality, faculty input should only be cultivated in esoteric subject areas."

Arthur P. Young
Research Associate
Library Research Center
University of Illinois
Urbana-Champaign

To the Editor:

Though a member of ALA, I do not feel that the Association truly meets my needs as an academic librarian. Subscribing to the ALA journals of interest to me would certainly be cheaper than being a member of the Association. However, I have retained my membership for 1974. ALA should provide more for the academic librarian or academic librarians will/must organize an alternative organization.

I find that ALA's "rival," SLA, meets my needs on a national basis to a greater degree than ALA. This is also true of ALA and SLA's "offspring," the local and state library organizations.

I really am not enthusiastic about another national library organization that would further splinter the profession. However, if that means is the only way academic librarians can have their needs met, then another organization should be formed. Perhaps the specter of another organization will spur ALA on to action.

Jennifer S. Cargill
Assistant Professor
Library Administration
Miami University
Oxford, Ohio

To the Editor:

Those readers who were interested in the letter of Kenneth and Sandra Roff in the November 1973 *College & Research Libraries* discussing folklore as a discipline should take note of the introduction of a bill to "provide for the establishment of an American Folklife Center in the Library of Congress (S1844)." A brief discussion of the bill can be found in the December 1973 *Wilson Library Bulletin* on page 302.

James Nettleman
Reference Librarian
Rutgers-Camden Library
Camden, New Jersey

To the Editor:

Many times I have been convinced that the desire for faculty status of librarians has been written about by librarians for librarians and no one else. The "Faculty Status—A Comprehensive Bibliography" by Nancy Huling in *CRL* for November 1973 bears this out. Only two journals cited are teachers' journals; all other citations are from library journals.

Faculty status for librarians needs support from outside the library profession. It is only from opinion in instruction and administration that any form of status can be achieved within a college or university. If the arguments which have been put forth by librarians since 1878, as shown in the bibliography, are well-founded and agreed upon within the library profession, then would some of these librarians who have presented views recast the articles for administrative or teaching journals? Or for union journals, or teacher association journals?

Anabel Sproat
Head Librarian
Moraine Valley Community College
Palos Hills, Illinois

Recent Publications

BOOK REVIEWS

Lancaster, F. Wilfrid, ed. ***Proceedings of the 1972 Clinic on Library Applications of Data Processing: Applications of On-Line Computers to Library Problems.*** University of Illinois, Graduate School of Library Science; London: Clive Bingley, 1972. 169 p.

The papers presented at the ninth annual clinic represent a welcome continuation in this series. Reports and demonstrations were given on a wide range of library applications of on-line computers and reflected uses in libraries of various types and sizes. Examples of applications were given on a variety of jobs which cut across library operations from acquisitions, cataloging, and serials control to circulation systems and the retrieval of biomedical information.

The traditional conference scheme was followed by a keynote address (from a marketing representative), and a summation (from a network manager). Between these talks were sandwiched the reports on how things work at home. Some flavor was added to this clinic, however, with the talk by Ellsworth Mason entitled "Automation or Russian Roulette." Mason has tried to dissolve the smoke screen which has obfuscated the cost considerations in library automation, especially in on-line applications. His arguments are telling: library cost studies are not plentiful nor reliable, while careful comparisons of manual versus machine costs are virtually non-existent. Mason's part of the program was handled brilliantly in the summation by Glyn T. Evans, one of our most articulate spokesmen for networks. He said:

> Mason is a brilliant performer. His enviable command of the language, his elegant turns of phrase, the dismissive wave of the hand, his unremitting rhetoric, bedazzle and bemuse us to our—and his—loss. For his supporters are hypnotized by the silken glitter of his top hat as he soft shoes his cane-twirling, spats-twinkling, white-spotlit way across the stage. And his opponents, infuriated and goaded, attack the shadow of his cape and not the substance of his argument (p. 158).

Evans goes on to deal specifically with Mason's points, and agrees that the cost/benefit factor is the critical aspect of on-line application. In a clinic devoted to applications of on-line computers to library problems, one could expect to see a presentation on the largest and most predominant interactive system for shared cataloging—that of the Ohio College Library Center. Perhaps it was thought that OCLC has been represented sufficiently at meetings and in the literature.

The shared access to various data bases within a network organization is a problem of manifest administrative and technological concern. Although Pizer touches on this one area in dealing with "On-Line Technology in a Library Network," a fuller treatment of these questions somewhere in this work would have been welcomed.

Generally, each discussion of the individual application is clear, concise, and helpful. The clinic papers read like one of the few conferences about which one could say, "I wish I had been there."—*Donald D. Hendricks, Director of the Library, The University of Texas Health Science Center, Dallas.*

Burke, John Gordon, and Wilson, Carol Dugan. ***The Monthly Catalog of United States Government Publications; an Introduction to Its Use.*** Hamden, Conn.: Shoe String Press, 1973. $6.50.

Don't buy this book. Unless you have $6.50 to waste. Of the 113 pages in the book, approximately 36 are useful in terms of the stated purpose of the book. 36 is generous.

Chapter I contains four pages of original text describing the essential bibliographic elements which may be found in the *Monthly Catalog*. These pages are clear and well written and useful in helping someone who needs basic instruction. Accompanying these pages are three sample pages from the *Monthly Catalog*, one from the index, the second a typical page, and the third a sample order blank. The first two samples are quite useful as each bit of information is clearly identified; they illustrate the text

well. Reproduction of the order blank is superfluous as there is one in each issue of the *Monthly Catalog* and the authors supply no explanatory information.

Chapter II is made up of three pages of text describing the indexing and features. These give very little help to the user. No mention is made of the fact that *Monthly Catalog* indexes are made up of key-words, subjects, issuing agencies and, since 1964, personal authors. Further, there is no mention of the two *Decennial Cumulative Indexes,* 1941–1950 and 1951–1960, unless these were mistakenly referred to as "decennial personal author indexes" by the authors. Omitted also is the fact that *Monthly Catalog* indexes list material under such headings as "atlases," "directories," and "ephemerides." The omissions noted are inexcusable as the information mentioned above is essential for effective and efficient use of the *Monthly Catalog.*

Chapter III, two pages of text, mentions additional sources for government publications: *Government Reports Index, Bibliography of Agriculture, Index Medicus, Research in Education,* and *CIS Index,* each with a short description of contents and use. Chapter IV describes in the same fashion sources for historical documents—Greely, Poore, Ames, the *1909 Checklist,* and the *Documents Catalog.* Chapter V lists seven popular guides to the use of government publications, namely, Andriot, Boyd & Rips, Leidy, O'Hara, Schmeckebier, Wisdom (*Popular Names of U.S. Government Reports, 1966,* which, incidently, was superseded in 1970 by a catalog with the same title by Bernier and David of the Library of Congress, LC 6.2:G74/970), and Wynkoop.

These five chapters take up 21 pages and contain the only useful information on using the *Monthly Catalog.*

The rest of the book is appendices. The first is a reproduction of the *List of Classes of U.S. Government Publications Available for Selection by Depository Libraries* (31 pages). Including this is akin to writing a pamphlet on how to use the card catalog and appending the LC class schedules. Appendix II is a short explanation of the SUDOCS classification scheme; Appendix III is an agency index to the classes. These two, without the *List of Classes,* are sufficient for users of the *Monthly Catalog.*

Appendices IV and V have to do with depository library laws and practices which may or may not help the user. Appendix VI is an incredible 34-page reproduction of the "List of Depository Libraries" as of September 1971. Anyone having need for this guide is presumably using the *Monthly Catalog,* and could easily turn to the September issue and get the latest list.

My advice to the prospective buyer is "Wait till it comes out in paperback," hopefully with the appendices omitted, and a bright, attractive cover saying "How to Use the *Monthly Catalog.*" You could drill a hole in it, tie a string through the hole, and hang it next to the *Monthly Catalog* where it could *really* be used. ERIC has such a guide for twenty-five cents, AEC distributes their *Guide to Nuclear Science Abstracts* free.—*Joyce Ball, University of Nevada, Reno.*

Becker, Joseph, and Pulsifer, Josephine S. ***Application of Computer Technology to Library Processes: A Syllabus.*** Metuchen, N.J.: Scarecrow Press, 1973. 173 p. $5.00.

In 1970 James Kortendick and Elizabeth W. Stone reported on the results of a research project entitled "Post-Master's Education for Middle and Upper-Level Personnel in Libraries and Information Centers." One of the educational needs they identified through a sample survey of federal librarians was the need for a post-master's course in library automation. Using data elicited in the sample survey and a systems approach to curriculum development, Becker and Pulsifer have prepared an outline for such a post-master's course, which they present in this syllabus.

The course is divided into eight units of study: a general introduction, computer technology, systems analysis, the MARC program, library clerical processes, reference and SDI services, related technologies, and library networks. Each unit includes a discussion of behavioral objectives for the unit, an outline of the topics covered, a course syllabus, and a bibliography. A list of general sources of information and an additional bibliography comprise the remainder of the work. There is no index, but the introductory outline to each unit facili-

tates locating specific information.

No course syllabus is completely satisfactory except perhaps to the person who has designed it. There are, nonetheless, some surprising omissions from this volume. A post-master's course in library automation, especially one designed for librarians with little knowledge of, or experience with, automation, should include an analysis of the economic and managerial implications of automation; it should also discuss how such techniques as operations research can improve managerial decision making. This syllabus treats economics minimally, and omits operations research and management information systems entirely.

Other subjects are covered unevenly. The description of the MARC program is excellent; a lucid text is complemented by a relatively comprehensive bibliography of primary and secondary sources. The unit on related technologies, on the other hand, is disjointed. With a vocabulary that is not always precise, the authors present information on micrographics, dial-access systems, and telecommunications. In some instances trade names are used in place of generic terms, e.g., Kalvar film for vesicular film, and Microcard for micro-opaque. CRT terminals are described as permitting "extrusion of an electron beam through a matrix of alphanumeric and special characters which are precision etched on a metal disk [and] when the beam strikes the phosphor-coated CRT, a high resolution character lights up" (p. 116). The reader is never told that CRT means cathode ray tube, or that a CRT presents a visual display of information in a manner analogous to a television set. Neither the bibliography with the unit nor the general bibliography includes references to standard sources of information on micrographics.

The sections covering computer technology, systems analysis, and library clerical processes are indebted to Robert M. Hayes' and Joseph Becker's *Handbook of Data Processing for Libraries* (New York: Wiley, 1970). A comparison of the two publications shows that the syllabus is a précis of the *Handbook* and, as such, exhibits many of its weaknesses. Much of the material in these sections (and in other parts of the syllabus as well) is no more recent than 1970 and the majority of the bibliographical citations are either to the *Handbook* or to mid-1960 publications.

While the genesis of this syllabus and the reputations of its authors are impressive, there is little to distinguish the volume's content, scope, or approach from other publications treating the same subject. The demand for a post-master's course in library automation may exist, but this syllabus does not supply that course.—*Howard Pasternack*, Library Technology Reports, *American Library Association, Chicago, Illinois.*

Coburn, Louis. ***Library Media Center Problems, Case Studies.*** Dobbs Ferry, N.Y.: Oceana Publications Inc., 1973. $7.50.

Most librarians, I suppose, realize the limitations of the theoretical instruction (however good) they got in library school. It quickly becomes apparent that we were not fully prepared by our classwork for what faced us in the field. One answer to this problem has been the work-study approach, but routine experiences in a work situation, completely divorced from theory, seem to be the other extreme.

The case study approach may prove to be the answer. It involves a *simulated* work experience in the classroom where conditions can be controlled and theory can be applied as well as practical solutions.

The major weakness seems to be that the case studies used are determined by the biases of the people who select and write them. In this book, however, Mr. Coburn seems to evidence a good set of biases. His simulated situations go right down the list of a school librarian's nightmares, from censorship hassles to personality conflicts with the principal. The usual table of contents is followed by a helpful list of brief synopses of the cases. The introduction is well documented, for the sake of the further-reading crowd. The physical format of each case is clear and concise, short, and to the point. The author standardizes the cases with a scene-setting paragraph, some character development, a presentation of the problem, then a list of discussion questions. Undeniably, the number one strong point of the case studies is brevity. The stage is set for discussion without reams of redundant reading. There are, however, some weak points.

I wonder if this second edition (the first was a local publication which I've never seen) isn't also only the second draft. The standardized format mentioned above is, on the whole, an advantage, but, at least in some of the cases, it reduces the book to the literary quality of a police report. A little more style would be appreciated even by the most businesslike library science student.

Some stated causes of the problems under study seem rather simplistic, even for a simulation. I remember at least two kids who avoided books because their "mother works." Perhaps a little more imagination in the third edition would add to the realism.

Another problem is stereotyping. Are all reading-guidance school librarians really as pushy as the one in the second case, who hounded some poor kid until he began to read in self-defense? I hope not. If so, perhaps Mr. Coburn should include a case on subtlety or diplomacy in the next edition.

Other typed characters also appear here and there in the book. Poor old Flora, age fifty-five, a "teacher-librarian," always seems to be messing up, but young (handsome?) Kurt, from the Accredited-Library-School, usually saves the day. Actually, a little of this kind of stuff adds a light touch to a textbook, but perhaps Mr. Coburn's touch was not quite light enough.

My general impression of this book, and certainly of the idea of case studies as an instructional resource, is positive. In a profession like library science, which is really just a trade after all, on-the-job training (simulated or otherwise) is the coming thing. Louis Coburn, along with Thomas Galvin who wrote the introduction, seems to be in on the ground floor of a new and promising instructional strategy. I recommend that you read it and even buy it if you have the funds. I liked it but I confess that I can hardly wait to see the next revision.—*James Doyle, Head of Reference, University of Detroit Library.*

Reynolds, Michael M., ed. ***Reader in Library Cooperation.*** Washington, D.C.: NCR Microcard Editions, 1972. 398 p. $12.95.

Novices in librarianship may not understand what all the fuss concerning library cooperation is really about. In their innocence, they have probably equated the library mission to disseminate knowledge with a seemingly obvious notion of cooperation among all libraries in their pursuance of that objective. It may indeed be sacrilege in this age of ecumenism to start this review with a heresy by saying that, contrary to all the preaching, the concept of cooperation is not unequivocally supported. At least, not yet. Otherwise, there would be no need for the multitude of articles written on this subject, nor could the collection of such reprints ever be justified. A lot of convincing and educating has to be done before cooperation in librarianship becomes the proverbial American apple-pie. Thus, the *Reader in Library Cooperation* is a timely and welcomed restatement of the issue. The book is itself a part of a cooperative venture, "intended as a means of exploration for the practicing librarian and as a textbook for the library school student," and it admirably draws "attention to significant social, behavioral, theoretical, organizational, functional, and operational generalizations about library interrelationship . . . [and] cooperative endeavor" (p.1).

The underlying, and occasionally underscored, theme of the collection is a concern about the basic value of cooperation. Many essays in this collection deal competently with cooperation as an efficient means for achieving the objectives of library service; some of the authors, however, also reflect on the real effect of cooperation on the library user. They seem to warn the reader that cooperation in itself is not a panacea for all the headaches of disseminating information, but rather it is an effort to identify and to solve similar problems together. One may almost detect a common non-theme, characterizing all essays. Although a lot is said in these essays about the difficulties in establishing and maintaining meaningful networks, no one attempts to solve the basic problems inherent in the concept of cooperation, since to resolve them would, in effect, eliminate the need for cooperation itself. Library cooperation is not just an activity, an efficient device for lowering costs or for speeding up library services. It is what an unindoctrinated student of librarianship might think it is: an

inherent part of an essential and basic force in librarianship, fulfilling an even more basic concept of equal, cooperatively shared access to information.

The collection contains thirty-nine reprints of articles published in the last three decades. Most papers were originally published in the 1960s (twenty-eight papers), four articles appeared in the 1940s, four in the 1950s, and three in 1970. Thus, the most recent article in the collection is already three years old, the oldest has reached the classic age of thirty-three. More than half of all contributors were librarians; twenty-three were library administrators, and ten were library science teachers. Among the non-librarians, thirteen were practitioners and nine were university professors in fields other than librarianship.

Most of the papers discuss cooperation among American libraries, with few contributions from England; passing references to other countries were made in some articles. Except for a few misprints and omissions, the typography of the book is attractive.

The collection is divided into four parts, covering the theory, practice, and trends in cooperation together with the study of relevant methods and research. The major sections and all individual articles are preceded by succinct and useful editorial comments; some readers may find, however, that the conciseness of the language slows down their reading speed.

The introductory section on the theory of library cooperation includes the studies of the social, political, and financial aspects of cooperation. This is a desirable introduction to the subject, since the traditional literature in this area often "exhibits a high degree of sophistication, while lacking a substantive understanding of fundamental social processes" (p.3).

The overall objectives of cooperation are considered in terms of increased reference and research services through interlibrary exchanges. The complexity of the services together with the constantly increasing costs of services are given as causes for the recurring surge of interest in cooperation. The difficulties in developing a cooperative movement are discussed frankly, singling out idiosyncrasies of librarians as the most serious obstacles.

"The Present Day Alternatives," described in the second part of the collection, relate the projects of yesteryear to more recent developments, citing examples from the Farmington Plan, through various regional union catalogs, to the Center for Research Libraries, the ERIC, and the MARC projects.

It seems that the prevailing thesis of this part of the book is the conviction that "for all the ideals of a service-oriented profession, libraries themselves are very pragmatic organizations . . . [which] must deal with hard political and economic realities rather than with aspirations to the ideal" (p.103). This struggle seems to be everlasting, and is easily identified today. The very recent (1973) cuts in the ERIC Clearinghouse budget, by some 35 percent, illustrate the impact of economics on cooperation.

Future trends are summarized by the subtitle of the third section, "The Movement Toward National Systems." In the words of the editor, "The central issue, then, is not whether the change should take place but rather, how best to share with the federal government the responsibility for raising the level of information services" (p.329).

The evolving national information networks discussed in these articles, such as EDUNET and ISRD, for example, aim at providing a multiplicity of open, voluntary, and independent subsystems, while being consistent with the requirements of efficient and effective operations. Such networks are envisaged as supplementing the activities of individual libraries and improving the ILL system, which presently "is based more on responses to pressures than on conscious planning [and hence] functions with less facility and at lower volume than is desirable" (p.309).

The collection ends with its most recently published essay on the methods and goals of research relevant to the design of information networks (part four).

The prediction made a few years ago for the 1970s was not far off the target. The "new" approach to cooperation involves more and more federal support, with emphasis on nationally based services and resources. The trend has shifted from federal

support of the "local retailer of information" to the "investment of the wholesale area, in the interface between the producer and the library retailer, to ensure the quality and availability of needed products, at prices, which the retailer can afford."*

Reading the essays for the first time, or reading them over again, is a therapeutic experience. It sharpens one's philosophical perspectives and strengthens one's patience, both very useful attributes in analyzing the slow evolutionary process of cooperation.

It is easy to update the *Reader's* sense of urgency. A few of the many obstacles yet to be overcome include recent attempts to increase subscription rates to join cooperative networks; the mushrooming of locally designed automated systems with total disregard for national standards; and the copyright controversy.

On the other hand, a continuous interest in the development of networks, expressed by national and local organizations; spectacular achievements in fields such as shared cataloging, for example; and encouragement from hindsight knowledge recorded in the *Reader in Library Cooperation* suggest a flicker of hope for better library cooperation in the years to come.—*Joseph Z. Nitecki, Temple University, Philadelphia, Pennsylvania.*

Borko, Harold, ed. ***Targets for Research in Library Education.*** Chicago: American Library Association, 1973. 239 p. $10.00.

This is an important book. It is important not because of the use of the "Delphi Technique," that controversial, much-maligned, and generally misunderstood method for predicting research needs and priorities, but rather because it contains what I view as some of the most provocative and productive thinking on the subject of library education ever brought together in any one volume.

At first one is puzzled at the rather considerable success of this book, especially in comparison to earlier cooperative attempts to "understand" library education. The key appears to be Harold Borko, the editor, who recruited a dozen knowledgeable and articulate library educators, assigned them topics worth thinking about, and then carefully and firmly directed and focused their work.

The authors include Jesse Shera, Margaret Monroe, Gerald Jahoda, Irving Lieberman, Robert B. Downs, Page Ackerman, and Leon Carnovsky, and their papers discuss such matters as the goals of library education, general versus specialized study, library school administration, library school faculty and students, and continuing education. Each author was asked to define the problem under discussion, to critically analyze previous research in this area, to suggest needed research, and finally to speculate on how the findings generated by such research might be utilized to improve the quality of library education. The ten papers produced using this formula constitute Part I of *Targets for Research in Library Education* and are at once informative and provocative, and represent required reading for anyone interested in library education.

Part II of this book is comprised of one paper describing the "Delphi Technique" and another by Borko entitled "Predicting Research Needs in Library and Information Science Education." In the latter, Borko attempts to assess accurately "group opinion on the relative importance of the various research projects which had been identified." Library educators will be pleased or displeased with his work in direct proportion to the "priority" rating given to their pet projects. But then, the priority ratings should not be taken as definitive, for the rapid changes in economic and social conditions that we are now witnessing will significantly alter our "priorities" in library education over the next few years. Thus the findings reported in part two of this book must be considered tentative and indeed perhaps even dated.

At the same time, it must be reiterated that the essays in part one are extremely valuable and will continue to provoke, inspire, and guide library educators for years to come. Harold Borko deserves a large bouquet indeed for his masterful direction of what must have been an unruly but brilliant ensemble.—*Michael H. Harris, College of Library Science, University of Kentucky.*

*From the "Statement by William S. Budington . . . representing the Association of Research Libraries before the Subcommittee on Education of the Senate Committee on Labor and Public Welfare on July 24, 1973."

O'Hara, Frederic J., ed. ***Reader in Government Documents.*** Washington, D.C.: Microcard Editions, 1973. 420 p. $12.95.

Taking time off from his regular column, "Selected Government Publications," which appears in *Wilson Library Bulletin*, Professor O'Hara of the Graduate Library School at Long Island University has assembled twenty-five articles and excerpts introducing government documents. O'Hara's purpose was to collect literature that explains to the reader how to use documents, what documents currently exist or are still needed in certain fields, and what federal libraries have done, are doing, or plan to do in the future. This reader is the ninth volume to appear within the Reader Series in Library and Information Science, under the general editorship of Paul Wasserman. *Reader in Government Documents* continues with the series' goal of synthesizing the most essential contributions within given areas of librarianship and making the information easily accessible to all concerned.

In reality, this volume might be more precisely titled *Handbook in Government Documents*, for most of the articles are oriented within a practical "how-to" framework. O'Hara opens with a general discussion of depository libraries with current depository regulations, instructions to depository libraries, and an explanation of the Superintendent of Documents classification system. The second section concerns laws, regulations, Congress, and the courts. Here the reader finds a guide to Federal Register finding aids and how to locate U.S. statutes and U.S. code citations in addition to explaining the process of how bills become laws and the structure of the U.S. court system. Next are articles that describe the services of the national library, the National Archives, and the publications of the United Nations. O'Hara then presents articles about the National Advisory Commission on Libraries, the Federal Library Committee, and An Act to Establish a National Commission on Libraries & Information Science (Public Law 91-345). Extremely useful is the section on information-handling systems, reprinted from a handbook for government employees describing information storage and retrieval systems currently in use. The article provides summaries of each system—including MARC, DDC, ERIC, and SDI, to name a few—and also provides operational flowcharts of the system. Other sections that O'Hara presents are discussions about social measurement and statistics; copyrights, patents, and trademarks; amending the Library Services and Construction Act; and careers in federal libraries.

The editor has assembled excellent authorities—including David Palmer, Douglas Knight, Dorothy Muse, and Norman Barbee—in this fine collection of articles. O'Hara is to be further congratulated for including articles that will enable more common folk to understand the workings of the federal government concerning its publications. Regarding O'Hara's specific selection of articles, this reviewer wishes only to quibble with the presence of two articles (Riddick and Fischer) discussing legislative procedures when one would have easily sufficed. It is also regrettable that although O'Hara saw fit to include an article about United Nations' documents he failed to include a discussion about the publications from the Organization of American States. Most apparent, however, is the brevity of O'Hara's introduction to the volume and his brief introductions to the individual articles. O'Hara's personal knowledge about government documents in the form of either an introductory essay or an annotated bibliography would have added much to this volume. These points aside, the volume is an excellent contribution and should be widely read and referred to by those researching in government publications, those enrolled in a government documents library science course, and those document librarians wishing to improve both their personal knowledge and their department's general reference service.—*Charles R. McClure, History-Government Librarian, University of Texas at El Paso.*

OTHER BOOKS OF INTEREST TO ACADEMIC LIBRARIANS

American University Press Services, Inc. *Ad Guide, 1973–1974, An Advertiser's Guide to Scholarly Periodicals.* New York: AUPS, Inc., 1973. 304p. $35.00.

Angoff, Allan, ed. *Public Relations for Li-*

braries: Essays in Communications Techniques. Westport, Connecticut: Greenwood Pub. Co., 1973. 246p. $12.50.

Armitage, Andrew D., and Tudor, Dean. *Annual Index to Popular Music & Record Reviews 1972.* Metuchen, New Jersey: Scarecrow, 1973. 467p. $12.50.

Boaz, Martha. *Toward the Improvement of Library Education.* Littleton, Colorado: Libraries Unlimited, 1973. 168p. $10.00.

Bundy, Mary Lee. *Investigative Methods for Information Specialities.* (Urban Information Series no. 8.) College Park, Maryland: Urban Information Interpreters, Inc., 1973. 72p. $5.00.

Campbell, H. C. *Public Libraries in the Urban Metropolitan Setting.* Hamden, Connecticut: Linnet Books and Clive Bingley, 1973. 298p. $13.50.

Fisk, Margaret, ed. *Encyclopedia of Associations.* 8th ed. Volume 1 National Organizations of the U.S. Detroit: Gale Research, 1973. 154p. $45.00.

Frase, Robert W. *Library Funding and Public Support.* Chicago: American Library Assn., 1973. 80p. $2.00.

French-Speaking Central Africa. Comp. by Julian W. Witherell. Library of Congress. Washington, D.C.: GPO, 1973. 326p. $3.70.

Gillett, Margaret, and Laska, John A. *Foundation Studies in Education: Justifications and New Directions: A Source Book.* Metuchen, New Jersey: Scarecrow, 1973. 430p. $10.00.

Hardwick, Michael and Mollie. *The Charles Dickens Encyclopedia.* New York: Scribner's, 1973. 531p. $15.00.

Hershfield, A. F., and Taylor, R. S. *Education and Curriculum Series #1.* Syracuse, New York: School of Library Science, Publications Office, Syracuse University, 1973. 87p. $1.75.

Huberman, A. M. *Understanding Change in Education: An Introduction.* New York: Unipub, Inc., 1973. 99p. $2.00.

Hyams, Edward. *A Dictionary of Modern Revolution.* New York: Taplinger, 1973. 322p. $9.95.

Jebb, Marcia, comp. and ed. *Major Microforms in the Five Associated University Libraries: A Reference Guide and Union List.* Syracuse, New York: Five Associated University Libraries, 1973. 105p. $3.00.

Katz, Michael B., ed. *Education in American History, Readings on Social Issues.* New York: Praeger, 1973. 348p. $10.00.

Literary and Library Prizes. 8th ed., rev. and ed. by Jeanne J. Henderson and Brenda G. Piggins. New York: Bowker, 1973. 480p. $16.50.

McGrath, Daniel F., ed. *Bookman's Price Index.* Vol. 6. Detroit: Gale Research, 1973. 694p. $38.50.

Parish, James Robert. *Actors' Television* Jersey: Scarecrow, 1973. 879p. $18.50. *Credits 1950–1972.* Metuchen, New

Shaffer, Dale E. *The Audio-Tape Collection.* Salem, Ohio: Dale E. Shaffer, Library Consultant, 437 Jennings Avenue. 32p. $2.00.

Sharma, C. D. *Classified Catalogue, Theory and Practice.* Delhi: Metropolitan Book Co., Pvt., Ltd., 1973. 163p. Rs. 16.00.

Verwey, Gerlof. *The Economist's Handbook, A Manual of Statistical Sources.* Amsterdam, 1934. Detroit: Gale Research, republished by Gryphon Books, 1971. 460p. $28.50.

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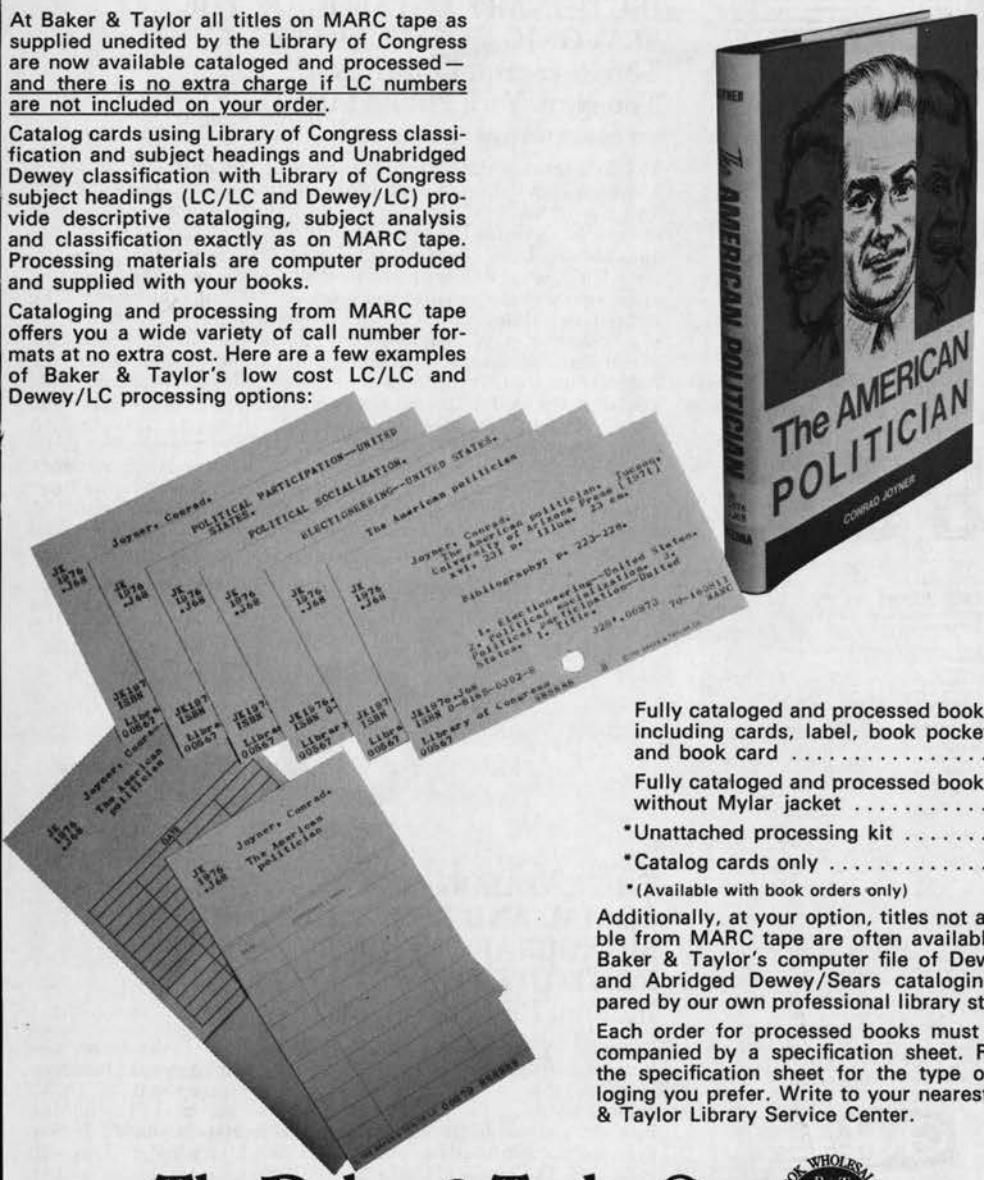

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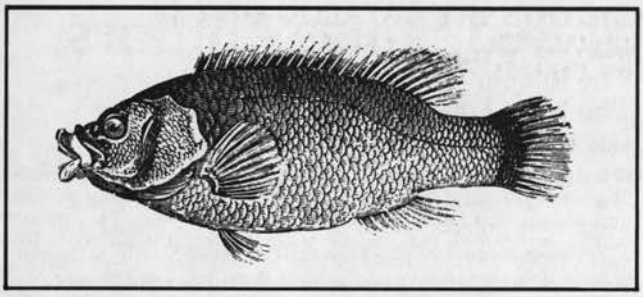

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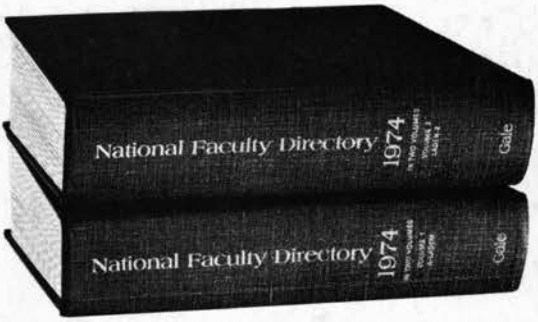

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